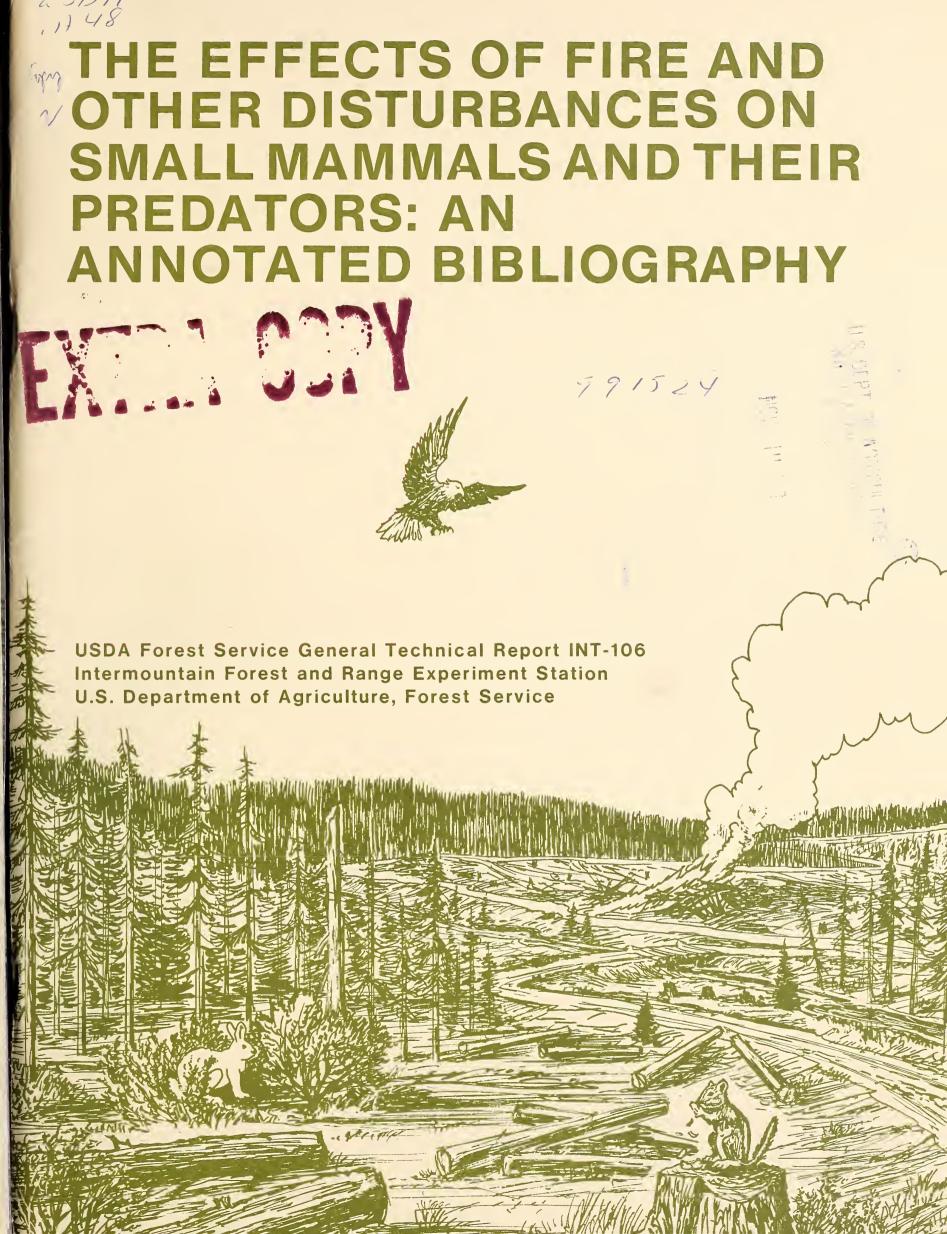
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THE EFFECTS OF FIRE AND OTHER DISTURBANCES ON SMALL MAMMALS AND THEIR PREDATORS: AN ANNOTATED BIBLIOGRAPHY

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THE COMPILER

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RESEARCH SUMMARY

This report contains an annotated bibliography of the effects of fire, logging, grazing, and spraying on small mammals and their predators. Each citation lists keywords. A brief summary of the general effects of fire on some of the more common small mammals in western coniferous forests is included.

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INTRODUCTION

Recently, there has been increased interest in the effects of disturbances on nongame species of wildlife such as small mammals and their predators. Because time and good library facilities are required to find these references, an annotated bibliography has been compiled to facilitate access to this information for land managers. In addition, a brief summary of the information on the habitat requirements and the effects of fire and other disturbances on some of the morestudied small mammals has been included.

The major effect of disturbances such as fire, logging, grazing, and herbicides on small mammals is the modification of vegetation. For this reason, references describing specific habitat requirements of the common small mammal species are included. Predators tend to be more closely tied to their food source than to other aspects of their habitat (such as vegetation type), so the main effects of disturbance may be through the effects on prey species. Therefore, publications dealing with predator-prey relationships, where small mammals are the prey species, have been included.

There are several small mammals, such as pikas and marmot, for which I found no references related to fire, probably because these animals are associated with fire-resistant, rocky habitats.

Bats are common small mammals for which I found no references on the effects of fire or other disturbances. Certainly, foliage-roosting species are influenced by fire or logging, but this, apparently, has not been researched.

Emphasis is on western coniferous forests, but publications specifically concerned with the effects of fire on small mammals have been included, regardless of geographical area. This bibliography should be useful for references published through 1979. Additional references will be graciously received.

This bibliography is the result of a literature search and the formation of a FAMULUS data file for the Fire Effects R&D Program, Northern Forest Fire Laboratory. The data file will be utilized in preparation of guidelines and state-of-the-art publications dealing with the effects of fire on resource production.

OVERVIEW OF FIRE EFFECTS

The responses of small mammal populations to fire and other disturbances are directly related to the modification of vegetation and food sources. Disturbance that removes dominant vegetation results in increased temperature ranges and air movements at the ground surface. Moisture regimes are altered by changes in the amount of precipitation reaching the ground. Dew, evaporation, and transpiration rates are also altered. A few months after disturbance, there is a surge in the growth of herbaceous plants in response to these environmental changes.

Short-term impacts of fire and other disturbance on animals include injury or death, loss of food and cover, and increased exposure to predation. The long-term response of many small mammal species is increased numbers, largely due to the surge in growth of herbaceous and seed-producing plants.

Much of the research on the effects of fire on small mammals was initiated because of the high small mammal populations following timber harvests and the resulting impacts on regeneration. Publications dealing with the effects on small mammals, of wildfire, or prescribed fire for big game habitat, are relatively scarce.

Although contradictions exist, general responses to the effects of fire can be predicted for most species. The following summaries are a synopsis of information from publications representing substantial research on the common species of the Rocky Mountain area for which information is available.

Shrews

(Sorex spp.)

Shrews generally require a mat of ground vegetation for cover. Shrews are insectivores, so they depend less on vegetation for food than do herbivorous species (Rickard 1960). Shrews are temporarily eliminated from areas where fire has removed the duff and ground vegetation, and will not return until a ground cover develops (Black and Hooven 1974). They are often associated with downed logs (Dimock 1974).

Rabbits and Snowshoe Hare

(Sylvilagus spp. and Lepus americanus)

Population highs of rabbits and showshoe hare are associated with shrubs and small, pole-sized confiers (Grange 1965). Hot fires that remove all cover make areas unsuitable as habitat until these successional stages are reached (Keith and Surrendi 1971). Slash piles can provide escape cover and improve the habitat of logged areas for cottontails (Costa and others 1976).

Beaver

(Castor canadensis)

High beaver populations have historically followed disturbances such as fire (Rowe and Scotter 1973) or logging (Patrick and Webb 1953) that initiate a successional sequence in which aspen is an intermediate stage. Beaver population peaks are often correlated with the establishment of aspen (Lawrence 1954; Patrick and Webb 1953). After a single generation, aspen is usually replaced by more tolerant climax species, and beaver populations decline (Lawrence 1954).

Chipmunks

(Eutamias spp.)

Chipmunks prefer partially open areas, but need the shelter provided by fallen trees, limbs, or shrubs. Fire and other disturbances may improve chipmunk habitat by creating openings, especially if these openings contain logging slash or rock outcrop cover (Davis 1976; Tevis 1956c). Chipmunks increase with the establishment of seed- and fruit-producing plants (Gashwiler 1970).

Ground Squirrels

(Spermophilus spp.)

Ground squirrels prefer open areas. They feed on plant species that grow in open habitat (Tevis 1953). Burrow systems provide protection from predators, so cover is not as important as it is for chipmunks, and large open areas can be invaded (Tevis 1956b; Gashwiler 1970b). Fire and other disturbances that remove the forest canopy improve the habitat for these animals (Davis 1976).

Red and Flying Squirrels

(Tamiasciurus hudsonicus and Glaucomys spp.)

Trees are essential for dens of flying squirrels and for dens and nests of red squirrels. These squirrels are displaced when fire or logging eliminates living trees from wide areas (Gashwiler 1970b) (Lyon and others 1978). Cavities in fire-killed trees may be used for dens (Burns, no date) if such snags are surrounded by living trees. Conifer seed is the primary food of red squirrels. Flying squirrels in some areas subsist largely on fungi (McKeever 1960), and may forage in fire-created openings.

Pocket Gophers

(Thomomys spp.)

Pocket gophers are favored by disturbance which removes the forest canopy, scarifies the soil, and results in the development of an herbaceous vegetation food source (Barnes 1974; Volland 1974). In unforested areas, grazing improves gopher habitat (Beuchner 1942). Protective burrow systems allow these animals to use large open areas, lacking protective cover.

Deer Mice

(Peromyscus maniculatus)

Deer mice are a pioneer species. They occur in most vegetation types during most stages of plant succession, but usually not in large numbers. Disturbances that result in early seral stages favor this species (Williams 1955). Deer mice are usually the most abundant small mammal in severely disturbed areas (Halvorson, in press; Dimock 1974). Their success on these sites is apparently due to their food habits (insects, wind-

dispersed conifer seeds, and seeds that remain in the soil after burning), their nocturnal habits, erratic movements (that provide protection from predators), and lack of competition from other species.

Voles

(Clethrionomys spp. and Microtus spp.)

Red-backed voles, Clethrionomys spp., and voles of the genus Microtus are associated with the organic layer of the ground surface. Important elements of their environment are a mat of ground cover, platable herbaceous plants, and moisture. A hot fire that destroys the surface organic layer will eliminate voles from an area (Dimock 1974). Logging improves the growth of forbs by decreasing competition for light and soil moisture. After logging, increased numbers of Microtus can be expected, but Clethrionomys populations are usually decimated by the removal of the forest canopy (Halvorson, in press; Halvorson, personal communication) and resulting lack of free surface water (Odum 1944). Occasionally, red-backed vole populations remain high after logging until the slash is burned. After burning, populations decline (Gashwiler 1959).

PREDATORS

Numerical data on the effects of fire on diversity and numbers of predators are scarce. There are, however, some general observations. Marten need climax forest communities and will be eliminated by catastrophic fire. They do benefit, however, from the vegetative mosaic resulting from regeneration following periodic small fires (Koehler and Hornocker 1977), and may not be adversely affected by selective timber harvesting (Soutiere 1979). Hawks may temporarily congregate to hunt in the vicinity of a recent burn (Baker 1940). Coyote and lion populations increase several years after fire in response to increased numbers of prey (Edwards 1954). A study of a raccoon family showed no change in the use of an area immediately after it burned (Sunquist 1967).

Although these observations are undoubtedly accurate, I am not aware of any studies that actually document numerical increases in predators following fire. The difficulties of accruing this kind of information are several:

- 1. Even in dense populations, predators are rare, compared to their prey.
- 2. Most predatory species are, by nature, very elusive.
- 3. Studies of predators, to be valid, need to be long-term (10 years or more).
- 4. The home range of many predators is so large that residence cannot usually be defined within a single burned area.

ORGANIZATION OF THE BIBLIOGRAPHY

The publications are listed alphabetically by author. Each publication is numbered. The annotations relate the information pertaining to the subject of this bibliography and are not meant to be abstracts. Keywords are given for each publication. A numeric rating of 1, 2, or 3 is included with the keywords. Papers rated 1 pertain more closely to the subject of this bibliography than papers rated 3. The keywords are arranged after the author index by geographic area, land treatment, effects of treatments, small mammal population characteristics, plant associations, plant species, animal species, and general reference information. Common and scientific names are used in the species indexes. Mammalian nomenclature has been standardized and follows Jones, Carter, and Genoways (1975).

The indexing system can be used in several ways. It can be used to search for publications about deer mice, or to search several words simultaneously, such as deer mouse and Douglas-fir, and to check for matching reference numbers; or the authorindex could be used to look for reference numbers of publications of individuals known to have studied deer mice.

BIBLIOGRAPHY

- ABRAMSKY Z., DYER M. I., HARRISON P. D. 1 AUTH
 - DATE
 - COMPETITION AMONG SMALL MAMMALS IN EXPERIMENTALLY PERTURBED TITL AREAS OF THE SHORTGRASS PRAIRIE.
 - ECOLOGY 60(3):530-536. PUBL
 - TREATMENT OF SHORTGRASS PRAIRIE WITH NITROGEN AND WATER RESULTED IN INCREASED POPULATIONS OF THE RELATIVELY RARE HARVEST MOUSE AND PRAIRIE VOLE WHILE COMMON SPECIES FOR THIS AREA, DEER MICE, 13-LINED GROUND SQUIRRELS AND GRASSHOPPER MICE AVOIDED THE TREATED AREA. WHEN THE INVADING SPECIES WERE REMOVED, DEER MICE INCREASED, APPARENTLY BECAUSE OF THE LACK OF COMPETITION. GRASSHOPPER MICE DID NOT INCREASE SUGGESTING A HABITAT PREFERENCE DIFFERENT THAN THE TREATED AREA. THE 13-LINED GROUND SQUIRRELS HIBERNATED DURING THE EXPERIMENTAL PERIOD.
 - SMALL MAMMALS, GRASSLAND, 1, DEER MOUSE, THIRTEEN-LINED GROUND KEYS SOUIRREL, WESTERN HARVEST MOUSE, PRAIRIE VOLE, NORTHERN GRASSHOPPER MOUSE, COLORADO, VEGETATION STRUCTURE
- AUTH ADAMS L.
 - DATE 1950.
 - TITL CONSUMPTION OF PONDEROSA PINE SEED BY SMALL MAMMALS.
 - USDA FOR. SERV., RES. NOTE NO. 80. 4P. NORTH. ROCKY MT. FOR. PUBL RANGE EXP. STN., MISSOULA, MONT.
 - AMOUNT OF PONDEROSA PINE SEED DESTROYED BY SMALL MAMMALS, ANNO ESPECIALLY WHITE-FOOTED MICE AND CHIPMUNKS, IS SUBSTANTIAL.
 - SMALL MAMMALS, FOOD HABITS, PONDEROSA PINE, IDAHO, MONTANA, KEYS WHITE-FOOTED MOUSE, CHIPMUNKS, 2
- 3 AUTH ADAMS L.
 - DATE 1959.
 - TITL AN ANALYSIS OF A POPULATION OF SNOWSHOE HARES IN NORTHWESTERN MONTANA.
 - PUBL ECOL. MONOGR. 29(2):141-170.
 - GENERAL LIFE HISTORY OF SNOWSHOE HARES. HARES PREFER TO STAY IN ANNO AREAS WHERE THE VEGETATION OFFERS PROTECTIVE COVER. WHEN THIS COVER BECOMES TOO DENSE, FOOD PLANTS CAN NO LONGER GROW THERE AND THE HARE HAVE TO MOVE INTO MORE OPEN AREAS TO FEED, INCREASING THEIR VULNERABILITY TO PREDATION. GREAT HORNED OWLS ARE THE MOST IMPORTANT PREDATOR.
 - SMALL MAMMALS, SNOWSHOE HARE, MONTANA, FOOD HABITS, POPULATION KEYS DENSITY, RAPTORS, GREAT HORNED OWL, PREDATORS, MINK, VEGETATION STRUCTURE, 2
- AUTH ADAMS L., HANAVAN M.G., HOSLEY N. W., JOHNSON D. W.
 - DATE
 - THE EFFECTS ON FISH, BIRDS AND MAMMALS OF DDT USED IN THE TITL CONTROL OF FOREST INSECTS IN IDAHO AND WYOMING. J. WILDL. MANAGE. 13(3):245-254.
 - PUBL
 - 8.5 KG/HA DDT APPLIED TO FOREST LAND TO CONTROL TUSSOCK MOTH ANNO HAD NO APPARENT AFFECT ON SMALL MAMMALS EXCEPT FOR TREMORS IN SOME CHIPMUNKS AND A SHREW WHICH SHOWED TYPICAL SYMPTOMS OF DDT POISONING.
 - KEYS FISH, BIRDS, SMALL MAMMALS, INSECTICIDE, WYOMING, IDAHO, CHIPMUNKS, SHREWS, 3

5 AUTH ADELMAN E.

DATE 1979.

TITL A SURVEY OF NONGAME MAMMALS IN THE UPPER RATTLESNAKE CREEK DRAINAGE OF WESTERN MONTANA.

PUBL M.S. THESIS, UNIV. MONT., MISSOULA. 129P.

ANNO DISCUSSES THE IMPACTS OF LOGGING, FIRE, AND RECREATION ON SMALL MAMMALS AND PREDATORS.

KEYS SMALL MAMMALS, HABITAT, MONTANA, PREDATORS, FIRE, LOGGING, PLANT SUCCESSION, 2

6 AUTH AGEE J. K.

DATE 1974.

TITL ENVIRONMENTAL IMPACTS FROM FIRE MANAGEMENT ALTERNATIVES.

PUBL NATL. PARK SERVICE, 92P. WESTERN REGIONAL OFFICE, SAN FRANCISCO, CALIF.

ANNO DESCRIBES GENERAL DIRECT AND INDIRECT IMPACTS OF UNCONTROLLED FIRE ON WILDLIFE.

KEYS SMALL MAMMALS, LARGE MAMMALS, MORTALITY, WILDFIRE, SOIL CHARACTERISTICS, BIRDS, 2

7 AUTH AHLGREN C. E.

DATE 1963.

TITL SOME BASIC ECOLOGICAL FACTORS IN PRESCRIBED BURNING IN NORTHEASTERN MINNESOTA.

PUBL TALL TIMBERS FIRE ECOL. CONF. 2:143-149.

ANNO THE FIRST YEAR AFTER FIRE SEED EATING SMALL MAMMALS AND BIRDS INCREASED. THE SECOND YEAR THE NUMBERS OF THESE SPECIES WERE NEAR NORMAL. IN LABORATORY STUDIES PEROMYSCUS CONSUMED 185 JACK PINE SEEDS/DAY.

KEYS DEER MOUSE, PINE SISKIN, POPULATION DENSITY, FOOD HABITS, JACK PINE, MINNESOTA, SMALL MAMMALS, PRESCRIBED FIRE, 1, BIRDS

8 AUTH AHLGREN C. E.

DATE 1966.

TITL SMALL MAMMALS AND REFORESTATION FOLLOWING PRESCRIBED BURNING.

PUBL J. FOREST. 64(9):614-618.

ANNO RESPONSES OF DEER MICE, RED-BACKED VOLES AND LEAST CHIPMUNKS POPULATIONS IN A CUT AREA, TWO CUT AND BURNED AREAS, AND A CONTROL AREA, WERE DETERMINED BY SNAP TRAPPING FOR 3 CONSECUTIVE YEARS.

KEYS SMALL MAMMALS, RED-BACKED VOLES, DEER MOUSE, LEAST CHIPMUNK, FOOD HABITS, POPULATION DENSITY, POST-FIRE SUCCESSION, HABITAT, JACK PINE, LOGGING, MINNESOTA, PRESCRIBED FIRE, 1

9 AUTH AMBROSE H. W.

DATE 1972.

TITL EFFECT OF HABITAT FAMILIARITY AND TOE-CLIPPING ON RATE OF OWL PREDATION IN MICROTUS PENNSYLVANICUS.

PUBL J. MAMMAL. 53(4):909-912.

ANNO VOLES FAMILIAR WITH THEIR ENVIORNMENT WERE CAPTURED LESS READILY THAN ANIMALS NEWLY RELEASED. TOE-CLIPPING HAD NO SIGNIFICANT EFFECT ON RATE OF PREDATION.

KEYS SMALL MAMMALS, PREDATION, RAPTORS, BARN OWL, VOLES, 2

10 AUTH AMBROSE R. E.

DATE 1975.

TITL THE EFFECT OF CLEARCUTTING ON BIRD AND SMALL MAMMAL POPULATIONS.

PUBL PH.D. DISSERTATION. UNIV. TENN., KNOXVILLE. 287P.

- ANNO THE WHITE-FOOTED MOUSE, EASTERN CHIPMUNK AND SHORT-TAILED SHREW WERE ALL MORE ABUNDANT ON CLEARCUTS THAN IN ADJACENT FOREST.
- KEYS BIRDS, SMALL MAMMALS, CLEARCUT, TENNESSEE, RAPTORS, WHITE-FOOTED MOUSE, EASTERN CHIPMUNK, SHORT-TAILED SHREW, PREDATORS, LONG-TAILED WEASEL, POPULATION DENSITY, RESIDUE TREATMENTS, SELECTIVE CUT, 1
- 11 AUTH ANDELT W. F., GIPSON P. S.

DATE 1979.

TITL DOMESTIC TURKEY LOSSES TO RADIO-TAGGED COYOTES.

PUBL J. WILDL. MANAGE. 43(3)673-679.

ANNO DESCRIBES PREDATION ON DOMESTIC TURKEYS BY RADIO-COLLARED COYOTES.

KEYS PREDATORS, COYOTE, PREDATION, DOMESTIC TURKEY, NEBRASKA, 2

12 AUTH ANDELT W. F., GIPSON P. S.

DATE 1979.

TITL HOME RANGE, ACTIVITY, AND DAILY MOVEMENTS OF COYOTES.

PUBL J. WILDL. MANAGE. 43(4):944-951.

ANNO DESCRIPTION OF THE ACTIVITIES AND MOVEMENTS OF TOE-CLIPPED AND RADIO-EOUIPPED COYOTES.

KEYS PREDATORS, COYOTE, NEBRASKA, MOVEMENTS, HOME RANGE, HABITAT, 3

13 AUTH ANDERSON R. J., BARNES V. G., BRUCE A. M.

DATE 1976.

TITL A BIBLIOGRAPHY OF POCKET GOPHERS FAMILY GEOMYIDAE.

PUBL WEYERHAUSER FORESTRY PAPER NO. 16. 50P.

ANNO COMPREHENSIVE POCKET GOPHER BIBLIOGRAPHY.

KEYS BIBLIOGRAPHY, SMALL MAMMALS, POCKET GOPHERS, 2

14 AUTH AUMANN G. D.

DATE 1965.

TITL MICROTENE ABUNDANCE AND SOIL SODIUM LEVELS.

PUBL J. MAMMAL 46:594-604.

ANNO CORRELATES PEAK VOLE DENSITIES WITH THE ABUNDANCE OF SODIUM IN THE SOIL.

KEYS SMALL MAMMALS, VOLES, POPULATION DENSITY, SODIUM, 2

15 AUTH BAKER R. H.

DATE 1940.

TITL EFFECT OF BURNING AND GRAZING ON RODENT POPULATIONS.

PUBL J. MAMMAL. 21:223.

ANNO CONCLUDES THAT GRAZING AND BURNING, ESPECIALLY THE LATTER REDUCES THE SMALL RODENT POPULATION. DESCRIBES THE ATTRACTION OF HAWKS TO WINTER BURNS. SHREWS WERE NOT CAUGHT IN TRAPS BUT CONSTITUTED 41% OF MAMMALIAN REMAINS IN OWL PELLETS FROM THE SAME AREAS.

KEYS SMALL MAMMALS, HARVEST MOUSE, NORTHERN PIGMY MOUSE, COTTON RAT, RAPTORS, GRASSLAND, GRAZING, POPULATION DENSITY, TEXAS, PREDATION, PRESCRIBED FIRE, 2

16 AUTH BAKER W. W.

DATE 1973.

TITL LONGEVITY OF LIGHTNING-STRUCK TREES AND NOTES ON WILDLIFE USE.

PUBL TALL TIMBERS FIRE ECOL. CONF. 13:497-504.

- ANNO SMALL MAMMALS USE BURNED OUT ROOT SYSTEMS OF LIGHTNING KILLED TREES.
- KEYS SNAGS, BIRDS, SMALL MAMMALS, REPTILES, 3

17 AUTH BARMORE W. J. JR., TAYLOR D., HAYDEN P.

DATE 1976.

TITL ECOLOGICAL EFFECTS AND BIOTIC SUCCESSION FOLLOWING THE 1974 WATERFALLS CANYON FIRE IN GRAND TETON NATIONAL PARK.

PUBL RESEARCH PROG. REP. 1974-1975. GRAND TETON NATIONAL PARK. 99P.

ANNO LIVE TRAPPING DATA INDICATE THAT FIRE CAUSED A CHANGE IN THE SPECIES COMPOSITION AND RELATIVE ABUNDANCE OF SMALL MAMMALS.

KEYS SMALL MAMMALS, BIRDS, MORTALITY, SPECIES COMPOSITION, POPULATION DENSITY, GRAND TETON NATIONAL PARK, POST-FIRE SUCCESSION, WILDFIRE, 2

18 AUTH BARNES V. G. JR.

DATE 1974

TITL RESPONSE OF POCKET GOPHER POPULATIONS TO SILVICULTURAL PRACTICES IN CENTRAL OREGON.

PUBL IN WILDLIFE AND FOREST MANAGEMENT IN THE PACIFIC NORTHWEST. P. 267-276. H.C. BLACK ED., 1973 SYMP. ORE. STATE UNIV., CORVALLIS.

ANNO RECOMMENDS ASSESSING GOPHER POPULATIONS BEFORE LOGGING. IN AREAS WHERE GOPHERS MAY PREVENT REFORESTATION, APPROPRIATE SILVICULTURAL PRACTICES SHOULD BE USED.

KEYS OREGON, LOGGING, CLEARCUT, HABITAT, 1

19 AUTH BECK A. M., VOGL R. J.

DATE 1972.

TITL THE EFFECTS OF SPRING BURNING ON RODENT POPULATIONS IN A BRUSH PRAIRIE SAVANNA.

PUBL J. MAMMAL. 53(2):336-346.

ANNO FIRE WAS USED TO CONVERT A FOREST WITH SUPPRESSED PRAIRIE UNDERSTORY BACK TO BRUSH PRAIRIE SAVANNA. THE SMALL MAMMAL RESPONSE WAS CONSIDERED TO BE A RESULT OF THE CHANGE IN VEGETATION. PEROMYSCUS LEUCOPUS AND CLETHRIONOMYS GAPPERI WERE BEST ADAPTED TO THE UNBURNED FOREST AND P. MANICULATUS AND SPERMOPHILUS TRIDECEMLINEATUS TO FIRE MAINTAINED PRAIRIE.

KEYS SMALL MAMMALS, WHITE-FOOTED MOUSE, DEER MOUSE, THIRTEEN-LINED GROUND SQUIRREL, RED-BACKED VOLES, HABITAT, FOOD HABITS, POPULATION DENSITY, SPECIES DIVERSITY, FIRE DISCLIMAX, BRUSH-GRASS, WISCONSIN, MORTALITY, RAPTORS, PREDATION, VEGETATION STRUCTURE, PRESCRIBED FIRE, 1

20 AUTH BENDELL J. F.

DATE 1961.

TITL SOME FACTORS AFFECTING THE HABITAT SELECTION OF THE WHITE-FOOTED MOUSE.

PUBL CAN. FIELD-NAT. 75(4):244-255.

ANNO DISTRIBUTION OF WHITE-FOOTED MOUSE STUDIED IN RELATION TO COVER, FOOD AND POPULATION STRUCTURE. MICE SELECTED ROCK COVER AND AVOIDED GRASSFORM COVER. IN DENSE POPULATIONS, LESS DESIRABLE HABITATS WERE FILLED. HABITAT SELECTION APPEARED TO BE MORE FOR PROTECTIVE COVER, THAN FOR FOOD.

KEYS SMALL MAMMALS, WHITE-FOOTED MOUSE, FOOD HABITS, VEGETATION STRUCTURE, ONTARIO, 2

21 AUTH BENDELL J. F.

DATE 1974.

TITL EFFECT OF FIRE ON BIRDS AND MAMMALS.

PUBL IN FIRE AND ECOSYSTEMS. P. 73-138. T. T. KOZLOWSKI/C.E. ALGREN, EDS. ACADEMIC PRESS, NEW YORK.

- ANNO THOROUGH REVIEW OF LITERATURE COVERING VIRTUALLY ALL EFFECTS OF FIRE ON WILDLIFE.
- KEYS SMALL MAMMALS, BIRDS, FIRE, POPULATION DENSITY, POST-FIRE SUCCESSION, HABITAT, BIBLIOGRAPHY, MICROCLIMATE, VEGETATION STRUCTURE, MOSAIC, PREDATION, RAPTORS, PREDATORS, LARGE MAMMALS, FOOD HABITS, SPECIES COMPOSITION, NUTRIENTS, 1
- 22 AUTH BERGSTROM D.

DATE 1979.

TITL SMALL MAMMALS TRAFFIC IN TRUFFLES

PUBL FOR. RES. WEST JAN. 79:1-3. USDA FOR. SERV., PAC. NORTHWEST FOR. AND RANGE EXP. STN., PORTLAND, ORE.

ANNO SMALL MAMMALS' CONSUMPTION OF TRUFFLES MAY BE IMPORTANT IN SPREADING THE SPORES OF MYCORRHIZAL FUNGI WHICH ARE IMPORTANT FOR THE SURVIVAL AND GROWTH OF TREES ON SOME UNFAVORABLE SITES.

KEYS SMALL MAMMALS, FOOD HABITS, 3, MYCORRHIZAL FUNGI

23 AUTH BERNARD S. R., BROWN K. F.

DATE 1977.

- TITL DISTRIBUTION OF MAMMALS, REPTILES, AND AMPHIBIANS BY BLM PHYSIOGRAPHIC REGIONS AND A. W. KUCHLER'S ASSOCIATIONS FOR THE ELEVEN WESTERN STATES.
- PUBL USDI-BLM TECH. NOTE 301, 169P.
- ANNO INFORMATION ON HABITAT REQUIREMENTS, PHYSIOGRAPHIC REGIONS, ASSOCIATION NUMBERS, AND STATES WHERE EACH SPECIES OCCURS.
- KEYS SMALL MAMMALS, PREDATORS, HABITAT, LIFE HISTORY, WESTERN U.S.,
- 24 AUTH BISWELL H. H.

DATE 1963.

TITL RESEARCH IN WILDLAND FIRE ECOLOGY IN CALIFORNIA.

PUBL TALL TIMBERS FIRE ECOL. CONF. 2:63-97.

ANNO HARVEST MICE, PINYON MICE AND DEER MICE WERE TRAPPED IN UNTREATED AREAS BUT NO MICE WERE TRAPPED IN THE AREA OF THE PRESCRIBED BURN. SUGGESTS THAT BURNING DESTROYS COVER FOR HIDING AND LEAVES RODENTS VULNERABLE TO PREDATION BY OWLS.

KEYS HARVEST MOUSE, PINON MOUSE, DEER MOUSE, OWLS, PREDATION, POPULATION DENSITY, PONDEROSA PINE, MANZANITA, CALIFORNIA, SMALL MAMMALS, PRESCRIBED FIRE, 2

25 AUTH BLACK H. C., DIMOCK E. J., EVANS J., ROCHELLE J. A.

DATE 1979.

- TITL ANIMAL DAMAGE TO CONIFEROUS PLANTATIONS IN OREGON AND WASHINGTON . PART 1. A SURVEY, 1963-1975.
- PUBL RES. BULL. 25. ORE. STATE UNIV., SCH. OF FOR., CORVALLIS.
- ANNO DESCRIPTION OF ANIMAL DAMAGE TO CONIFEROUS PLANTATIONS IN OREGON AND WASHINGTON.
- KEYS SMALL MAMMALS, LARGE MAMMALS, BIRDS, DAMAGE, OREGON, WASHINGTON, DOUGLAS-FIR, PONDEROSA PINE, 3
- 26 AUTH BLACK H. C., HOOVEN E. H.

DATE 1974.

- TITL RESPONSE OF SMALL MAMMAL COMMUNITIES TO HABITAT CHANGES IN WESTERN OREGON.
- PUBL IN WILDLIFE AND FOREST MANAGEMENT IN THE PACIFIC NORTHWEST. P. 177-186. H. C. BLACK ED., PROC. 1973 SYMP. ORE. STATE UNIV., CORVALLIS.
- ANNO DESCRIBES THE EFFECTS OF FIRE, LOGGING AND HERBICIDES ON SMALL MAMMAL POPULATIONS IN MATURE DOUGLAS-FIR AND MIXED CONIFER

STANDS. SMALL MAMMALS RESPONDED TO HABITAT CHANGES CAUSED BY THESE DISTURBANCES ACCORDING TO THEIR HABITAT REQUIREMENTS.

KEYS SMALL MAMMALS, POST-FIRE SUCCESSION, SPECIES COMPOSITION,
MORTALITY, SLASH FIRE, LOGGING, HABITAT, DEER MOUSE, SHREWS,
VOLES, CHIPMUNKS, OREGON, DOUGLAS-FIR, HERBICIDE, POCKET
GOPHERS, WILDFIRE, CLEARCUT, 1

27 AUTH BLACK H. C., TABER R. D.

DATE 1977.

TITL MAMMALS IN WESTERN CONIFEROUS FOREST ECOSYSTEMS: AN ANNOTATED BIBLIOGRAPHY.

PUBL BULL. NO. 2. CONIFEROUS FOREST BIOME ECOSYSTEM ANALYSIS STUDIES. US/INTERNATIONAL BIOLOGICAL PROGRAM. 199P.

ANNO ANNOTATED AND KEYWORDED BIBLIOGRAPHY OF MAMMALS IN WESTERN CONIFEROUS FORESTS.

KEYS SMALL MAMMALS, LARGE MAMMALS, PREDATORS, CONIFEROUS FOREST, BIBLIOGRAPHY, 1

28 AUTH BOCK J. H., BOCK C. E.

DATE 1978.

TITL RESPONSE OF BIRDS, SMALL MAMMALS, AND VEGETATION TO BURNING SACATON GRASSLANDS IN SOUTHEASTERN ARIZONA.

PUBL J. RANGE MANAGE. 31(4):295-300.

ANNO NUMBERS OF PEROMYSCUS WERE UNAFFECTED BY FIRE. COTTON RAT NUMBERS WERE REDUCED, BUT POCKET MICE AND KANGAROO RATS INCREASED. RELATED THESE CHANGES TO FOOD HABITS. SEED EATERS INCREASED, VEGETATION EATERS DECREASED.

KEYS SMALL MAMMALS, BIRDS, GRASSLAND, PRESCRIBED FIRE, ARIZONA, GRAZING, FOOD HABITS, RAPTORS, COTTON RAT, POCKET MOUSE, KANGAROO RATS, DEER MOUSE, 2

29 AUTH BOCK J. H., BOCK C. E., MCKNIGHT J. R.

DATE 1976.

TITL A STUDY OF THE EFFECTS OF GRASSLAND FIRES AT THE RESEARCH RANCH IN SOUTHEASTERN ARIZONA.

PUBL ARIZONA ACADEMY OF SCIENCE 11(3):49-57.

ANNO SMALL MAMMALS SHOWED NO SIGNIFICANT INCREASE IN BURNED AREA AND IN SOME CASES DECREASED.

KEYS WILDFIRE, BIRDS, SMALL MAMMALS, GRASSLAND, ARIZONA, 2

30 AUTH BORRECCO J. E., BLACK H. C., HOOVEN E. F.

DATE 1979.

TITL RESPONSE OF SMALL MAMMALS TO HERBICIDE-INDUCED HABITAT CHANGES.

PUBL NORTHWEST SCI. 53(2):97-106.

ANNO SPECIES COMPOSITION OF SMALL MAMMAL COMMUNITIES WAS ALTERED BY CONTROLLING THE HERBACEOUS VEGETATION. SPECIES PREFERRING GRASSY HABITATS- DEERMICE AND TROWBRIDGE SHREWS INCREASED AFTER TREATMENT WITH 2,4-D, VAGRANT SHREWS, OREGON VOLES AND PACIFIC JUMPING MICE DECREASED.

KEYS SMALL MAMMALS, HABITAT, HERBICIDE, CREEPING VOLE, DEER MOUSE,
PACIFIC JUMPING MICE, TROWBRIDGE SHREW, VAGRANT SHREW, OREGON,
1

31 AUTH BRABANT A.

DATE 1922.

TITL THE FIRE FIEND'S THREAT TO THE FUR TRADE.

PUBL CAN. FOR. MAG. 18(12):1204-1205.

ANNO FIRE CAUSES DISAPPEARANCE OF MARTEN.

KEYS MARTEN, FIRE, PREDATORS

- 32 AUTH BRAND C. J., KEITH L. B.
 - DATE 1979.
 - TITL LYNX DEMOGRAPHY DURING A SNOWSHOE HARE DECLINE IN ALBERTA.
 - PUBL J. WILDL. MANAGE. 43(4):827-849.
 - ANNO DURING AN INTERVAL WHEN LYNX AND SNOWSHOE HARE POPULATIONS WERE DECLINING, THE BODY FAT OF LYNX DECLINED AND THE PERCENTAGE OF KITTENS IN THE POPULATION DECREASED.
 - KEYS PREDATORS, SMALL MAMMALS, LYNX, SNOWSHOE HARE, POPULATION DENSITY, ALBERTA, PREDATION, 1
- 33 AUTH BRAND C. J., KEITH L. B., FISCHER C. A.
 - DATE 1976.
 - TITL LYNX RESPONSES TO CHANGING SNOWSHOE HARE DENSITIES IN CENTRAL ALBERTA.
 - PUBL J. WILDL. MANAGE. 40:416-428.
 - ANNO WHEN THE POPULATION OF SNOWSHOE HARES WAS LOW, THERE WERE FEWER LYNX IN THE STUDY AREA AND THE FREQUENCY OF HARES IN THE LYNX DIET WAS LOWER THAN IN YEARS OF HARE ABUNDANCE.
 - KEYS LYNX, SNOWSHOE HARE, POPULATION DENSITY, PREDATORS, ALBERTA, SMALL MAMMALS, 3
- 34 AUTH BROADBROOKS H. E.
 - DATE 1970.
 - TITL POPULATIONS OF THE YELLOW-PINE CHIPMUNK, EUTAMIAS AMOENUS.
 - PUBL AM. MIDL. NAT. 83(2):472-488.
 - ANNO PINE SQUIRRELS, GOLDEN-MANTLED GROUND SQUIRRELS AND CHIPMUNKS, ALL DIURNAL AND SHARING HABITATS AND FOOD, LIVED TOGETHER SUCCESSFULLY. CHIPMUNK POPULATION DENSITY CONTROLLED BY SPACING OF INDIVIDUALS AND PREDATORS.
 - KEYS SMALL MAMMALS, YELLOW-PINE CHIPMUNK, PREDATORS, LYNX, HABITAT, FOOD HABITS, POPULATION DENSITY, PREDATION, WASHINGTON, RED SQUIRREL, GOLDEN-MANTLED GROUND SQUIRREL, SELECTIVE CUT, RAPTORS, REPTILES, 3
- 35 AUTH BUCKNER J. L., LANDERS J. L.
 - DATE 1979
 - TITL FIRE AND DISKING EFFECTS ON HERBACEOUS FOOD PLANTS AND SEED SUPPLIES.
 - PUBL J. WILDL. MANAGE. 43(3):807-811.
 - ANNO ANNUALS AND MOST PERENIALS WERE FAVORED BY DISKING. SEEDS ON DISKED AND ANNUALLY BURNED SITES WERE AVAILABLE TO SEED EATERS. SEEDLINGS ON DOUBLE DISKED SITES DEVELOPED WITH LITTLE COMPETITION BECAUSE WIREGRASS AND BRACKEN FERN HAD BEEN ELIMINATED, AND SEED PRODUCTION INCREASED 34% OVER THAT IN ANNUALLY BURNED WOODS.
 - KEYS SMALL MAMMALS, LARGE MAMMALS, BIRDS, PRESCRIBED FIRE, DISKING, FOOD HABITS, SEED, 1, GEORGIA, LONGLEAF PINE-WIREGRASS-BRACKEN FERN,
- 36 AUTH BUECH R. R., SIDERITS K., RADTKE R. E., SHELDON H. L., ELSING
 - DATE 1977.
 - TITL SMALL MAMMAL POPULATIONS AFTER A WILDFIRE IN NORTHEAST MINNESOTA.
 - PUBL USDA FOR. SERV. RES. PAP. NC-151. 8P. NORTH CENTRAL FOR. EXP. STN., ST. PAUL, MINN.
 - ANNO AFTER A LARGE WILDFIRE ONLY 16 PERCENT AS MANY SMALL MAMMALS WERE IN THREE FOREST COMMUNITIES THAT HAD BURNED AS WERE IN COMPARABLE UNBURNED AREAS. THE RED-BACKED VOLE WAS THE MOST

AFFECTED. DEER MICE APPEARED TO HAVE IMMIGRATED INTO THE BURNED AREA.

KEYS RED-BACKED VOLES, DEER MOUSE, MASKED SHREW, ROCK VOLE, LEAST CHIPMUNK, POPULATION DENSITY, SPECIES DIVERSITY, MINNESOTA, SMALL MAMMALS, WILDFIRE, 1

37 AUTH BUECHNER H. K.

DATE 1942.

TITL INTERRELATIONSHIPS BETWEEN THE POCKET GOPHER AND LAND USE.

PUBL J. MAMMAL. 23(3):346-348.

ANNO OVERGRAZING GREATLY INCREASED THE NUMBER OF POCKET GOPHERS.

KEYS SMALL MAMMALS, POCKET GOPHERS, GRAZING, POPULATION DENSITY, GRASSLAND, TEXAS, 2

38 AUTH BURNS S.

DATE NO DATE.

TITL MANAGING SNAGS FOR WILDLIFE HABITAT. COORDINATING GUIDELINES FOR WILDLIFE HABITAT NO 2.

PUBL USDA FOR. SERV. BITTERROOT NATL. FOREST, NORTHERN REGION, MISSOULA, MONT.

ANNO RECOMMENDATIONS FOR PRESERVING SNAGS FOR WILDLIFE HABITAT.

KEYS SNAGS, BIRDS, SMALL MAMMALS, HABITAT, 3

39 AUTH BURTON D. H., BLACK H. C.

DATE 1978.

TITL FEEDING HABITS OF MAZAMA POCKET GOPHERS IN SOUTH-CENTRAL OREGON.

PUBL J. WILDL. MANAGE. 42(2):383-390.

ANNO MAZAMA POCKET GOPHERS PREFERRED SUCCULENT PLANTS. GRASSES WERE HEAVILY UTILIZED WHEN FORBS WERE NOT AVAILABLE. PONDEROSA PINE WERE EATEN IN THE WINTER, BUT WERE A VERY MINOR PART OF THE DIET. SUGGESTS HABITAT MODIFICATION TO CONTROL POCKET GOPHER DAMAGE TO TREE REGENERATION.

KEYS SMALL MAMMALS, WESTERN POCKET GOPHER, OREGON, FOOD HABITS, 2

40 AUTH CHEW R. M., BUTTERWORTH B. B., GRECHMAN R.

DATE 1958.

TITL THE EFFECTS OF FIRE ON THE SMALL MAMMAL POPULATIONS OF THE CHAPARRAL.

PUBL J. MAMMAL. 40(2):253.

ANNO GIVES NUMBERS OF SMALL MAMMAL CARCASSES FOUND IN CANYON AFTER CHAPARRAL FIRE. APPARENT CAUSE OF DEATH WAS ASPHYXIATION OR HEAT PROSTRATION.

KEYS SMALL MAMMALS, MORTALITY, CHAPARRAL, CALIFORNIA, WILDFIRE, 2

41 AUTH CLARK T. W., CAMPBELL T. M.

DATE 1979.

TITL POPULATION ORGANIZATION AND REGULATORY MECHANISMS OF PINE MARTEN IN GRAND TETON NATIONAL PARK, WYOMING.

PUBL IN PROC. 1ST CONF. ON SCI. RES. IN THE NATL. PARKS. VOL. I P. 293-295. R. M. LINN ED. USDI NATL. PARK SERV. TRANS. AND PROC. SERIES NO. 5.

ANNO STUDY ON UNDISTURBED MARTEN POPULATION IN GRAND TETON NATIONAL PARK AND AN ECOLOGICALLY SIMILILAR AREA ON THE TETON NATIONAL FOREST THAT WAS SUBJECT TO LOGGING. NO CHANGES IN TRAP UTILIZATION OR MARTEN HOME RANGES WERE OBSERVED AS A RESULT OF THE LOGGING OPERATIONS.

KEYS PREDATORS, MARTEN, GRAND TETON NATL. PARK, PREDATION, WYOMING, RODENTS, LOGGING, 1, POPULATION DENSITY, VEGETATION STRUCTURE

- 42 AUTH CLEARY B. D., GREAVES R. D., HERMANN R. K.
 - DATE 1978.
 - TITL REGENERATING OREGON'S FORESTS.
 - PUBL OREGON STATE UNIV. EXTENSION SERVICE, CORVALLIS, ORE. 203P.
 - ANNO SECTION ON DESTRUCTIVE IMPACTS OF MAMMALS ON REFORESTATION.
 - KEYS SMALL MAMMALS, LARGE MAMMALS, DAMAGE, 3, OREGON
- 43 AUTH CLOTHIER R. R.
 - DATE 1955.
 - TITL CONTRIBUTION TO THE LIFE HISTORY OF VAGRANT SHREW.
 - PUBL J. MAMMAL. 36(2):214-221.
 - ANNO LIFE HISTORY OF VAGRANT SHREW. THEY ARE MOST COMMON IN DAMP SITUATIONS, NEAR WATER. FOOD WAS MAINLY INSECTS, EARTHWORMS, AND OTHER SMALL INVERTEBRATES.
 - KEYS SMALL MAMMALS, VAGRANT SHREW, FOOD HABITS, HABITAT, MONTANA, 3
- 44 AUTH COOK S. F. JR.
 - DATE 1959.
 - TITL THE EFFECTS OF FIRE ON A POPULATION OF SMALL RODENTS.
 - PUBL ECOLOGY 40:102-108.
 - ANNO THE REDUCTION OF COVER RESULTING FROM FIRE WAS CONSIDERED TO BE THE MAJOR FACTOR LIMITING THE RECOVERY OF MICE. IN THE SECOND YEAR AFTER FIRE, THE INCREASE OF SEED PRODUCING ANNUALS FAVORED SEED EATING MICE.
 - KEYS SMALL MAMMALS, POPULATION DENSITY, GRASSLAND, BRUSH-GRASS, CALIFORNIA, WILDFIRE, 2, HABITAT, FOOD HABITS
- 45 AUTH COSTA R., FFOLLIOTT P. F., PATTON D. R.
 - DATE 1976
 - TITL COTTONTAIL RESPONSES TO FOREST MANAGEMENT IN SOUTHWESTERN PONDEROSA PINE.
 - PUBL USDA FOR. SERV. RES. NOTE-RM 330. 4P. ROCKY MT. FOR. AND RANGE EXP. STN., FT. COLLINS, COLO.
 - ANNO WHEN MANAGING PONDEROSA PINE FOR TIMBER PRODUCTION USING SHELTERWOOD OR GROUP SELECTION, COTTONTAILS CAN BE INCREASED BY ENCOURAGING DENSE REGENERATION. IN CLEARCUTS, WINDROWING SLASH AND ENCOURAGING HERBACEOUS AND SHRUBBY GROWTH WILL INCREASE COTTONTAIL USE.
 - KEYS SMALL MAMMALS, COTTONTAIL RABBIT, CLEARCUT, PONDEROSA PINE, ARIZONA, LOGGING, 2, HABITAT
- 46 AUTH COWAN I. MCT., MACKAY R. H.
 - DATE 1950.
 - TITL FOOD HABITS OF THE MARTEN (MARTES AMERICANA) IN THE ROCKY MOUNTAIN REGION OF CANADA.
 - PUBL CAN. FIELD-NAT. 64(3):100-104.
 - ANNO MARTEN USED RED-BACKED VOLES MORE THAN ANY OTHER FOOD ITEM.
 SUGGESTS THAT VARYING HARE AND GROUSE '10YEAR' CYCLES DO NOT
 AFFECT MARTEN REPRODUCTION, BECAUSE THE MARTEN PREFERS A DIET
 OF VOLES.
 - KEYS MARTEN, FOOD HABITS, PREDATION, ALBERTA, POPULATION DENSITY, RED-BACKED VOLES, 2, PREDATORS, SMALL MAMMALS
- 47 AUTH COWLES R. B.
 - DATE 1967.
 - TITL FIRE SUPPRESSION, FAUNAL CHANGES AND CONDOR DIETS.
 - PUBL TALL TIMBERS FIRE ECOL. CONF. 7:217-244.
 - ANNO SUPPRESSION OF FIRE AND RESULTANT BRUSH FIELDS ON CALIFORNIA MOUNTAIN SIDES HAS CAUSED CALIFORNIA CONDORS TO SWITCH FROM A

PREFERRED DIET OF SMALL MAMMALS, ESPECIALLY RABBITS, TO CARCASSES OF LARGE HERBIVORES. SUGGESTS A CALCIUM DEFICIENCY HAS RESULTED FROM THE LACK OF SMALL BONES IN THE CONDORS' DIET.

KEYS RABBITS, CALIFORNIA, CALIFORNIA CONDOR, PREDATION, CHAPARRAL, CALIFORNIA, POST-FIRE SUCCESSION, SMALL MAMMALS, BIRDS, 3

48 AUTH CROUCH G. L.

DATE 1976.

TITL WILD ANIMAL DAMAGE TO FORESTS IN THE UNITED STATES AND CANADA.

PUBL IN XVI IUFRO WORLD CONGRESS PROC. DIV. II, NORWAY P. 468-478.

ANNO DESCRIBES DAMAGE TO FOREST TREES BY DIFFERENT KINDS OF WILDLIFE.

KEYS SMALL MAMMALS, LARGE MAMMALS, BIRDS, DAMAGE, U.S., CANADA, 3, RAPTORS

49 AUTH CROUCH G. L.

DATE 1979.

TITL ATRAZINE IMPROVES SURVIVAL AND GROWTH OF PONDEROSA PINE THREATENED BY VEGETATIVE COMPETITION AND POCKET GOPHERS.

PUBL FOR. SCI. 25(1):99-111.

ANNO ATRAZINE WAS SUCCESSFULLY USED TO REDUCE COMPETITIVE PLANT COVER AND POCKET GOPHER FOOD SUPPLY. FALL APPLICATIONS WERE MORE SUCCESSFUL THAN SPRING APPLICATIONS.

KEYS SMALL MAMMALS, POCKET GOPHERS, FOOD HABITS, PONDEROSA PINE, OREGON, HERBICIDE, 3

50 AUTH DAVIS P. R.

DATE 1976.

TITL RESPONSE OF VERTEBRATE FAUNA TO FOREST FIRE AND CLEARCUTTING IN SOUTH CENTRAL WYOMING.

PUBL USDA FOR. SERV. AND UNIV. OF WYOMING COOP AGREEMENTS NOS. 16-391-CA AND 16-464-CA. 94P.

ANNO COMPARED EFFECTS OF CLEARCUTS AND WILDFIRE ON WILDLIFE. REASONS FOR DIFFERENCES WERE DETERMINED. RECOMMENDATIONS WERE MADE TO MAKE CLEARCUTS MORE CLOSELY RESEMBLE FIRE. CLEARCUTS SUPPORTED MORE SMALL MAMMALS THAN FORESTED AREAS OR BURNS. IT WAS RECOMMENDED THAT SOME LOGGING RESIDUE BE LEFT FOR SMALL MAMMAL ESCAPE COVER. LEAST CHIPMUNKS AND GOLDEN-MANTLED GROUND SQUIRELS WERE MORE NUMEROUS IN BURNED THAN CLEARCUT AREAS, DEER MICE WERE MORE ABUNDANT IN BURNED AND CLEARCUT AREAS THAN FORESTED AREAS, AND RED-BACKED VOLES WERE MOST ABUNDANT IN FORESTED AREAS.

KEYS LARGE MAMMALS, SMALL MAMMALS, BIRDS, WILDFIRE, CLEARCUT, WYOMING, LODGEPOLE PINE, LEAST CHIPMUNK, GOLDEN-MANTLED GROUND SQUIRREL, DEER MOUSE, RED-BACKED VOLES, BIBLIOGRAPHY

51 AUTH DE VOS A.

DATE 1951.

TITL OVERFLOW AND DISPERSAL OF MARTEN AND FISHER FROM WILDLIFE REFUGES.

PUBL J. WILDL. MANAGE. 15(2):164-175.

ANNO POINTS OUT THE VALUE OF WILDLIFE REFUGES FOR PROTECTION AND AS CENTERS OF DISPERSAL FOR FUR-BEARERS.

KEYS PREDATORS, MARTEN, FISHER, POPULATION DENSITY, MIGRATION, 3

52 AUTH DE VOS A.

DATE 1951.

TITL RECENT FINDINGS IN FISHER AND MARTEN ECOLOGY AND MANAGEMENT.

PUBL TRANS. N. AM. WILDL. CONF. 16:498-507.

ANNO FISHER APPEAR TO ADAPT BETTER TO EARLIER SUCCESSIONAL STAGES THAN MARTEN, BUT BOTH ARE RARE IN RECENTLY LOGGED OR BURNED-OVER AREAS. FISHER FOOD FOR THE WINTER CONSISTED OF SNOWSHOE HARE, PORCUPINE, FISH, AND MICE.

KEYS PREDATORS, MARTEN, FISHER, SMALL MAMMALS, LOGGING, FIRE, 2, SNOWSHOE HARE, MICE, PORCUPINE

53 AUTH DEBYLE N. V.

DATE 1981.

TITL CLEARCUTTING AND FIRE IN THE LARCH-FIR FORESTS OF WESTERN MONTANA--A MULTIFACETED RESEARCH SUMMARY.

PUBL USDA FOR. SERV., GEN. TECH. REP. INT-99. INTERMT. FOREST AND RANGE EXP. STN., OGDEN, UTAH.

ANNO DISCUSSES EFFECT OF BROADCAST BURNING ON SMALL MAMMALS AND THE IMPLICATIONS FOR TREE REGENERATION.

KEYS SMALL MAMMALS, FOOD HABITS, CLEARCUT, POPULATION DENSITY, BROADCAST FIRE, 3

54 AUTH DICE L. R.

DATE 1925.

TITL A SURVEY OF THE MAMMALS OF CHARLEVOIX COUNTY, MICHIGAN, AND VICINITY.

PUBL UNIV. OF MICH. MUS. ZOOL., OCCAS. PAP. 159:1-33.

ANNO FIRE HAS DISASTEROUS EFFECT ON SMALL MAMMALS BECAUSE OF THE DESTRUCTION OF THEIR HABITAT AND FOOD. MARTEN AND FISHER WHICH ARE DEPENDANT ON SMALL MAMMALS FOR FOOD ARE ALSO ELIMINATED BY

KEYS SMALL MAMMALS, MICHIGAN, LOGGING, FIRE, PREDATORS, MARTEN, FISHER, 2

55 AUTH DIMOCK E. J. II.

DATE 1974.

TITL ANIMAL POPULATIONS AND DAMAGE.

PUBL IN ENVIORNMENTAL EFFECTS OF FOREST RESIDUES MANAGEMENT IN THE PACIFIC NORTHWEST. O. P. CRAMER, ED. P.O-1-0-27. USDA FOR. SERV. GEN. TECH. REP. PNW-24, PAC. NORTHWEST FOR. AND RANGE EXP. STN., PORTLAND, ORE.

ANNO MOST RESIDUE TREATMENTS FURTHER ENHANCE HABITATS ALREADY IMPROVED FOR PROBLEM ANIMALS BY TIMBER HARVESTING. TREATMENTS THAT MODIFY RESIDUES THE LEAST APPEAR MOST PROMISING FOR ATTAINING TIMBER, RANGE, AND WILDLIFE PRODUCTION GOALS WITH MINIMUM DAMAGE FROM ANIMALS.

KEYS SMALL MAMMALS, LOGGING, RESIDUE TREATMENTS, HABITAT, DAMAGE, LARGE MAMMALS, BIRDS, PRESCRIBED FIRE

56 AUTH EADIE W. R.

DATE 1953.

TITL RESPONSE OF MICROTUS TO VEGETATIVE COVER.

PUBL J. MAMMAL. 34:263-264.

ANNO MICROTUS AVOIDED AREAS OF SPARCE VEGETATION IN MEADOW HABITAT. SUGGESTS REDUCTION OF GROUND VEGETATION IN ORCHARDS WOULD MAKE THEM LESS HABITABLE FOR VOLES.

KEYS SMALL MAMMALS, MEADOW VOLE, VEGETATION STRUCTURE, POPULATION DENSITY, HABITAT, 1

57 AUTH EASTMAN J.

DATE 1976.

TITL LURE OF THE BURN.

PUBL NAT. WILDL. 14(5):10.

ANNO BRIEFLY DESCRIBES SEVERAL BENEFICIAL EFFECTS OF FIRE ON WILDLIFE.

KEYS LARGE MAMMALS, SMALL MAMMALS, BIRDS, CALIFORNIA CONDOR, MORTALITY, FOOD HABITS, HABITAT, WILDFIRE, 2

58 AUTH EDGERTON P. J., THOMAS J. W.

DATE 1977.

TITL IMPACTS OF SILVICULTURE ON WILDLIFE HABITATS IN THE BLUE MOUNTAINS.

PUBL IN INTEGRATION OF FOREST RESOURCE MANAGEMENT IN THE BLUE MOUNTAINS, J. HERBST, ED., P.61-63. MAR. 1977. LA GRANDE, ORE. 66P.

ANNO DISCUSSES METHODS OF MODIFYING WILDLIFE HABITAT THROUGH SILVICULTURAL TECHNIQUES. EMPHASIS ON STRUCTURE OF VEGETATION.

KEYS HABITAT, LOGGING, OREGON, BIRDS, VEGETATION STRUCTURE, 2

59 AUTH EDWARDS R. Y.

DATE 1954.

TITL FIRE AND THE DECLINE OF A MOUNTAIN CARIBOU HERD.

PUBL J. WILDL. MANAGE. 18(4):521-526.

ANNO DISCUSSES THE LONG TERM EFFECTS OF CATASTROPHIC FIRE ON WILDLIFE. CLIMAX FOREST SPECIES DECLINED, SPECIES FAVORED BY EARLY SUCCESSION AND THEIR PREDATORS INCREASED.

KEYS LARGE MAMMALS, PREDATORS, SMALL MAMMALS, CARIBOU, MOOSE, MULE DEER, MARTEN, MOUNTAIN LION, COYOTE, WOLVERINE, BEAVER, FOOD HABITS, POPULATION DENSITY, BRITISH COLUMBIA, LONG TERM FIRE EFFECTS, WILDFIRE, 1

60 AUTH ELLISON L.

DATE 1946.

TITL THE POCKET GOPHER IN RELATION TO SOIL EROSION ON MOUNTAIN RANGE.

PUBL ECOLOGY 27(2):101-114.

ANNO ALTHOUGH POCKET GOPHERS ARE RESPONSIBLE FOR DOWNHILL DISPLACEMENT OF SOIL, OVERGRAZING IS THE PRIMARY CAUSE OF EROSION. GOPHERS INCREASED IN HEAVILY GRAZED AREAS BECAUSE OF THE INCREASE OF DEEP ROOTED OR BULBOUS FORBS. THE GOPHERS ACTUALLY IMPROVE SOIL AERATION AND IMPROVE WATER INFILTRATION.

KEYS SMALL MAMMALS, POCKET GOPHERS, POPULATION DENSITY, SOIL EROSION, UTAH, 2, GRAZING

61 AUTH ELLISON L., ALDOUS C. M.

DATE 1952.

TITL INFLUENCE OF POCKET GOPHERS ON VEGETATION OF SUBALPINE GRASSLAND IN CENTRAL UTAH.

PUBL ECOLOGY 33(2):177-186.

ANNO RESULTS OF A 9 YEAR STUDY WHERE GOPHERS WERE REMOVED FROM HALF OF THE STUDY AREA INDICATED THAT POCKET GOPHERS IMPROVE SOIL AERATION AND PROBABLY CAUSE AN INCREASE IN VEGETATION INSPITE OF WHAT THEY CONSUME..

KEYS SMALL MAMMALS, POCKET GOPHERS, POPULATION DENSITY, UTAH, SOIL, GRASSLAND, HABITAT, FIRE, GRAZING, SOIL COMPACTION, 2

62 AUTH EVANS K. E., PROBASCO G. E.

DATE 1977.

TITL WILDLIFE OF THE PRAIRES AND PLAINS.

PUBL USDA FOR. SERV. GEN. TECH. REP. NC-29, 18P. NORTH CENT. FOR. EXP. STN. ST., PAUL, MINN.

- ANNO DISCUSSION OF WILDLIFE RESOURCES AND HABITAT MANAGEMENT OF GRASSLANDS IN THE U.S.
- KEYS SMALL MAMMALS, LARGE MAMMALS, PREDATORS, AMPHIBIANS, REPTILES, GRASSLAND, HABITAT, BIRDS, 3
- 63 AUTH FALA R. A.
 - DATE 1975.
 - TITL EFFECTS OF PRESCRIBED BURNING ON SMALL MAMMAL POPULATIONS IN A MIXED-OAK CLEARCUT.
 - PUBL J. FOR. 73(9):586-587.
 - ANNO PRESCRIBED BURNING IN A MIXED-OAK CLEARCUT IN PENNSYLVANIA RESULTED IN A REDUCTION OF HERBIVOROUS SPECIES (VOLES), HOWEVER INSECTIVOROUS AND SEED EATING DEER MICE BECAME ESTABLISHED WITHIN ONE MONTH. CONCLUDED FIRE WAS ADVANTAGEOUS FOR SITE PREPARATION WHEN TREES ARE TO BE PLANTED BECAUSE IT REDUCED HERBIVOROUS SMALL MAMMALS.
 - KEYS SMALL MAMMALS, DEER MOUSE, RED-BACKED VOLES, MEADOW VOLE, POPULATION DENSITY, POST-FIRE SUCCESSION, OAK, PENNSYLVANIA, FOOD HABITS, PRESCRIBED FIRE, CLEARCUT, 1
- 64 AUTH FISHER E. L., HURLEY J. F.
 - DATE 1978.
 - TITL FUELS, MANAGEMENT AND WILDLIFE.
 - PUBL USDA FOR. SERV. COORDINATION GUIDELINES FOR WILDLIFE HABITATS, NO. 10. 14P. CALIFORNIA, REGION.
 - ANNO DESCRIBES METHODS OF MANAGING FUELS TO IMPROVE WILDLIFE HABITAT.
 - KEYS SMALL MAMMALS, LARGE MAMMALS, BIRDS, FISH, PREDATORS, FUELS, HABITAT MANAGEMENT, SLASH, PRESCRIBED FIRE, 2
- 65 AUTH FISHER J. L., CROSS S. P.
 - DATE 1979.
 - TITL BATTERY-LIGHT TRACKING AS A TECHNIQUE FOR STUDYING SMALL NOCTURAL MAMMAL MOVEMENTS.
 - PUBL NORTHWEST SCI. 53(2):90-93.
 - ANNO DESCRIBES A TECHNIQUE FOR MONITORING SMALL MAMMAL MOVEMENTS AT NIGHT USING A BATTERY-LIGHT PACKET ATTACHED TO MOUSE.
 - KEYS SMALL MAMMALS, MOVEMENTS, 2, MICE
- 66 AUTH FITCH H. S.
 - DATE 1947.
 - TITL PREDATION BY OWLS IN THE SIERRA FOOTHILLS OF CALIFORNIA.
 - PUBL CONDOR 49:137-151.
 - ANNO ANALYSIS OF FOOD HABITS OF OWLS PREYING ON SMALL MAMMALS.
 - KEYS SMALL MAMMALS, RAPTORS, OWLS, CALIFORNIA, PREDATION, GREAT HORNED OWL, BARN OWL, POCKET GOPHERS, 3
- 67 AUTH FITCH H. S.
 - DATE 1954.
 - TITL SEASONAL ACCEPTANCE OF BAIT BY SMALL MAMMALS.
 - PUBL J. MAMMAL. 35:39-47.
 - ANNO SMALL MAMMAL POPULATIONS VARY IN THEIR SUSCEPTIBILITY TO TRAPPING DUE TO SEASONAL CHANGES IN FOOD AVAILABILITY, WEATHER CONDITIONS AND OTHER FACTORS.
 - KEYS SMALL MAMMALS, FOOD HABITS, POPULATION DENSITY, TRAPPING, 2

68 AUTH FOGEL R. D., TRAPPE J. M.

DATE 1978.

TITL FUNGUS CONSUMPTION (MYCOPHAGY) BY SMALL MAMMALS.

PUBL NORTHWEST SCI. 52:1-31.

ANNO A REVIEW OF THE LITERATURE ON SMALL MAMMAL FOOD HABITS,
DISCUSSION OF THE FOOD VALUE OF FUNGI, AND THE SIGNIFICANCE OF
THE INTERDEPENDANCE OF SMALL MAMMALS AND FUNGI TO THE FOREST
ECOSYSTEM.

KEYS SMALL MAMMALS, FOOD HABITS, BIBLIOGRAPHY, FUNGI, 2

69 AUTH FOWELLS H. A., SCHUBERT G. H.

DATE 1951.

TITL RECENT DIRECT SEEDING TRIALS IN THE PINE REGION OF CALIFORNIA.

PUBL USDA FOR. SERV. RES. NOTE NO. 78, 9P. CALIF. FOREST AND RANGE EXP. STN.

ANNO BURNING DID NOT PROTECT SEED PLANTINGS FROM RODENTS. BROADCAST POISONING OFFERED ONLY TEMPORARY RODENT CONTROL.

KEYS SMALL MAMMALS, FIRE, FOOD HABITS, 2, POISONS

70 AUTH FOX J. F.

DATE 1978.

TITL FOREST FIRES AND THE SNOWSHOE HARE - CANADA LYNX CYCLE.

PUBL OECOLOGIA (BERL.) 31:349-374.

ANNO AUTHOR SUPPORTS HYPOTHESIS OF POST-FIRE SECONDARY SUCCESSION TO ACCOUNT FOR SNOWSHOE HARE - CANADA LYNX PELT CYCLES, USING INFORMATION FROM FUR TRAPPING, FIRE HISTORY, PLANT ECOLOGY AND ANIMAL PHYSIOLOGY.

KEYS SNOWSHOE HARE, LYNX, POST-FIRE SUCCESSION, POPULATION DENSITY, FOOD HABITS, SMALL MAMMALS, PREDATORS, WILDFIRE, 2, CANADA

71 AUTH FRENZEL R. W., STARKEY E. E., BLACK H. C.

DATE 1979.

TITL EFFECTS OF PRESCRIBED BURNING ON SMALL MAMMAL COMMUNITIES IN THE LAVA BEDS NATIONAL MONUMENT, CALIFORNIA

PUBL IN PROC. 1ST CONF. ON SCI. RES. IN THE NATL. PARKS VOL. II. P. 287-292, R. M. LINN ED. USDI NATL. PARK SERV. TRANS. AND PROC. NO. 5. 1979.

ANNO PRESCRIBED FIRE IN SAGEBRUSH-BUNCHGRASS AND IN CHEATGRASS DID NOT HAVE AN IMMEDIATE EFFECT ON THE MAJOR SMALL MAMMAL SPECIES.

KEYS SMALL MAMMALS, PRESCRIBED FIRE, LAVA BEDS NATIONAL MONUMENT, CALIFORNIA, SAGEBRUSH-GRASS, CHEATGRASS, DEER MOUSE, HEERMANN KANGAROO RAT, GREAT BASIN POCKET MOUSE, MONTANE VOLE, 2

72 AUTH FRIDAY G. P.

DATE 1978.

TITL VEGETATIVE STRUCTURE AND MAMMALIAN UTILIZATION ON A FOREST-FIELD TRANSITION AND ITS ADJACENT HABITATS.

PUBL PH.D. DISSERTATION. MICH. STATE UNIV., EAST LANSING. 74P.

KEYS SMALL MAMMALS, WHITE-FOOTED MOUSE, EASTERN CHIPMUNK, FOX SQUIRREL, RED SQUIRREL, VEGETATION STRUCTURE, HABITAT, FOREST-FIELD TRANSITION, 2

73 AUTH GARMAN E. H., ORR-EWING A. L.

DATE 1949.

TITL DIRECT-SEEDING EXPERIMENTS IN THE SOUTHERN COASTAL REGION OF BRITISH COLUMBIA.

PUBL BRIT. COL. FOR. SERV., TECH. PUBL. T 31.

ANNO RAPID INCREASE IN SMALL MAMMAL POPULATION 2 WEEKS AFTER SLASH FIRE.

KEYS SMALL MAMMALS, SEED, SLASH FIRE, BRITISH COLUMBIA, POPULATION DENSITY, 2

74 AUTH GASHWILER J. S.

DATE 1959.

TITL SMALL MAMMAL STUDY IN WEST-CENTRAL OREGON.

PUBL J. MAMMAL. 40:128-138.

ANNO SMALL MAMMAL POPULATIONS WERE STUDIED IN LOGGED AND BURNED DOUGLAS-FIR. DEER MICE INCREASED AFTER LOGGING. AFTER BURNING THEY INCREASED 2-3 TIMES ABOVE DENSITIES IN VIRGIN FOREST. RED-BACKED VOLES INCREASED AFTER LOGGING, BUT DISAPPEARED AFTER FIRE. CHIPMUNKS DECREASED AFTER LOGGING AND AFTER FIRE.

KEYS SMALL MAMMALS, DEER MOUSE, RED-BACKED VOLES, CHIPMUNKS, CLEARCUT, DOUGLAS-FIR, PACIFIC NORTHWEST, POPULATION DENSITY, MORTALITY, SLASH FIRE, 1

75 AUTH GASHWILER J. S.

DATE 1965.

TITL TREE SEED ABUNDANCE VS. DEER MOUSE POPULATIONS IN DOUGLAS-FIR CLEARCUTS.

PUBL PROC. SOC. AM. FOR., 1965:219-222.

ANNO SPRING POPULATIONS OF DEER MICE SEEM TO BE AFFECTED BY FACTORS OTHER THAN SEED ABUNDANCE. FALL POPULATIONS DID NOT RESPOND TO CURRENT SEED CROPS, BUT SHOWED A POSITIVE RESPONSE TO MODERATE OR GOOD SEED CROPS FROM THE PRECEEDING YEAR. SIZE OF SPRING POPULATION HAS VERY LITTLE INFLUENCE ON THE SIZE OF FALL POPULATIONS AND VICE VERSA.

KEYS SMALL MAMMALS, DEER MOUSE, FOOD HABITS, SEED, DOUGLAS-FIR, CLEARCUT, DAMAGE, PACIFIC NORTHWEST, 2

76 AUTH GASHWILER J. S.

DATE 1967.

TITL CONIFER SEED SURVIVAL IN A WESTERN OREGON CLEARCUT.

PUBL ECOLOGY 48(3):431-438.

ANNO SMALL MAMMALS AND BIRDS CAUSED 63% OF DOUGLAS-FIR SEED LOSS ON CLEARCUT, AND 16% OF WESTERN HEMLOCK SEED LOSS.

KEYS SMALL MAMMALS, BIRDS, CLEARCUT, OREGON, SEED, FOOD HABITS, DOUGLAS-FIR, 2

77 AUTH GASHWILER J. S.

DATE 1969.

TITL DEER MOUSE REPOPULATION OF A POISONED DOUGLAS-FIR CLEARCUT.

PUBL J. FOR. 67(7):494-497.

ANNO POISONED BAIT WAS EFFECTIVE FOR 38 DAYS. IMMIGRATION OCCURRED 15-19 DAYS LATER. IN 5 TO 7 MONTHS THE POPULATION WAS BACK TO PREVIOUS LEVELS.

KEYS SMALL MAMMALS, DEER MOUSE, POISONS, DOUGLAS-FIR, CLEARCUT, POPULATION DENSITY, MIGRATION, OREGON, 2

78 AUTH GASHWILER J. S.

DATE 1970.

TITL FURTHER STUDY OF CONIFER SURVIVAL IN A WESTERN OREGON CLEARCUT.

PUBL ECOLOGY 51(5):849-854.

ANNO BIRDS, CHIPMUNKS, SHREWS AND MICE ACCOUNT FOR A LARGE PERCENTAGE OF THE LOSS OF NATURALLY DISSEMINATED SEED ON A CLEAR CUT.

KEYS SMALL MAMMALS, OREGON, CLEARCUT, SEED, FOOD HABITS,
DOUGLAS-FIR, WESTERN HEMLOCK, WESTERN RED-CEDAR, BIRDS, MICE,
SHREWS, CHIPMUNKS, 1

79 AUTH GASHWILER J. S.

DATE 1970.

TITL PLANT AND ANIMAL CHANGES ON A CLEARCUT IN WEST-CENTRAL OREGON.

PUBL ECOLOGY 51(6):1018-1026.

ANNO PLANT AND MAMMAL CHANGES IN A VIRGIN FOREST AND A BURNED CLEARCUT WERE STUDIED FOR 10 YEARS. DESCRIBES CHANGES IN SMALL MAMMAL POPULATIONS.

KEYS SMALL MAMMALS, CLEARCUT, DOUGLAS-FIR, OREGON, SPECIES
COMPOSITION, POPULATION DENSITY, POST-FIRE SUCCESSION, DEER
MOUSE, TOWNSEND'S CHIPMUNK, CREEPING VOLE, SNOWSHOE HARE,
SHREWS, ERMINE, RED-BACKED VOLES, FLYING SQUIRRELS, DOUGLAS'
SQUIRRELS, CALIFORNIA GROUND SQUIRREL, MIGRATION, SLASH FIRE, 1

80 AUTH GASHWILER J. S., ROBINETTE W. L., MORRIS D. W.

DATE 1960.

TITL FOODS OF BOBCATS IN UTAH AND EASTERN NEVADA.

PUBL J. WILDL. MANAGE. 24(2):226-229.

ANNO REPORTS STOMACH CONTENT ANALYSIS OF BOBCATS KILLED BY HUNTERS. HARES AND RABBITS WERE THE CHIEF FOOD ITEM.

KEYS PREDATORS, SMALL MAMMALS, BOBCAT, NEVADA, UTAH, BLACK-TAILED JACK RABBIT, RABBITS, PORCUPINE, DEER MOUSE, 2

81 AUTH GETZ L. L.

DATE 1968.

TITL INFLUENCE OF WATER BALANCE AND MICROCLIMATE ON THE LOCAL DISTRIBUTION OF THE RED-BACKED VOLE AND WHITE-FOOTED DEER MOUSE.

PUBL ECOLOGY 49:276-286.

ANNO RESTRICTION OF RED-BACKED VOLE HABITAT AS COMPARED TO THAT OF THE WHITE-FOOTED MOUSE WAS RELATED TO THE AVAILABILITY OF WATER, RATHER THAN OTHER ASPECTS OF THE MICROCLIMATE.

KEYS SMALL MAMMALS, RED-BACKED VOLES, WHITE-FOOTED MOUSE, MICROCLIMATE, MOISTURE REQUIREMENTS, NEW ENGLAND, UPLAND WOODS, SWAMPS, 1

82 AUTH GIVENS L. S.

DATE 1962.

TITL USE OF FIRE ON SOUTHEASTERN WILDLIFE REFUGES.

PUBL TALL TIMBERS FIRE ECOL. CONF. 1:121-126.

ANNO BURNING AT LEAST EVERY OTHER YEAR IS NECESSARY IN COASTAL MARSHES TO MAINTAIN EARLY SUCCESSIONAL STAGES AND PREFERRED FOODS OF MUSKRATS, BLUE AND SNOW GEESE.

KEYS MUSKRAT, BLUE GOOSE, SNOW GOOSE, COASTAL MARSHES, SOUTHEAST, SMALL MAMMALS, BIRDS, PRESCRIBED FIRE, 3

83 AUTH GODFREY G. K.

DATE 1955.

TITL OBSERVATIONS ON THE NATURE OF THE DECLINE IN NUMBERS OF TWO MICROTUS POPULATIONS.

PUBL J. MAMMAL. 36(2):209-214.

ANNO EXAMINES POSSIBLE CAUSES OF POPULATION FLUCTUATIONS OF FIELD VOLES. FINDING NO ENVIORNMENTAL CAUSES, SUPPORTS HYPOTHESIS THAT IN THE YEAR OF THE POPULATION CRASH, OVER-WINTERING ANIMALS ARE ABNORMAL FROM BIRTH AS A RESULT OF INTRASPECIFIC STRIFE THE PREVIOUS BREEDING SEASON.

KEYS VOLES, POPULATION DENSITY, ENGLAND, 3

84 AUTH GRAHAM S. A.

DATE 1928.

TITL INFLUENCE OF SMALL MAMMALS AND OTHER FACTORS UPON THE LARCH SAWFLY SURVIVAL IN THE LAKE STATES.

PUBL J. ECON. ENTOMOL.

ANNO MICE ARE IMPORTANT IN THE DESTRUCTION OF LARCH SAWFLY PREPUPAE.

WHERE MOUSE POPULATIONS ARE HIGH, DESTRUCTION OF SAWFLIES IS
HIGH. VOLES ATE MORE SAWFLY PREPUPAE THAN THE INSECTIVOROUS
SHREWS.

KEYS SMALL MAMMALS, FOOD HABITS, LARCH SAWFLY, TAMARACK, MICHIGAN, VOLES, SHREWS, 2

85 AUTH GRANGE W.

DATE 1965.

TITL FIRE AND TREE GROWTH RELATIONSHIPS TO SNOWSHOE RABBITS.

PUBL TALL TIMBERS FIRE ECOL. CONF. 4:111-123.

ANNO SNOWSHOE RABBIT POPULATION EXPLOSIONS OCCUR ONLY ON VERY EARLY SUCCESSIONAL FOREST STAGES, NOT LONG AFTER THE OCCURRENCE OF FIRE. ALMOST ALL PLANT SPECIES IMPORTANT TO SNOWSHOE RABBITS HAVE ADAPTATIONS TO FIRE.

KEYS SNOWSHOE HARE, POPULATION DENSITY, CONIFEROUS FOREST, WISCONSIN, MINNESOTA, ALBERTA, BRITISH COLUMBIA, ALASKA, SMALL MAMMALS, POST-FIRE SUCCESSION, WILDFIRE, 2

86 AUTH GULLION G. W.

DATE 1977.

TITL MAINTENANCE OF THE ASPEN ECOSYSTEM AS A PRIMARY WILDLIFE HABITAT.

PUBL PROC. INT. CONGR. GAME BIOL. 13:256-265.

ANNO PROTECTION FROM FIRE AND FROM HARVESTING HAVE CAUSED LOSS OF ASPEN HABITAT THROUGH DECADENCE. SOME SPECIES OF WILDLIFE ARE CLOSELY TIED TO THE ASPEN HABITAT. COMMERCIAL HARVEST CAN BE ADJUSTED ECONOMICALLY TO MEET THE NEEDS OF THESE SPECIES OF WILDLIFE.

KEYS ASPEN, HABITAT, FIRE, BIRDS, PREDATORS, LARGE MAMMALS, 2

87 AUTH GUNDERSON H. L.

DATE 1959.

TITL RED-BACKED VOLE HABITAT STUDIES IN CENTRAL MINNESOTA.

PUBL J. MAMMAL. 40(3):405-412.

ANNO AVAILABILITY OF FREE WATER AND THE PRESENCE OF STUMPS, ROTTING LOGS AND ROOT SYSTEMS IN LOOSE FOREST LITTER AND SPAGNUM ARE IMPORTANT FACTORS IN THE HABITAT OF RED-BACKED VOLES.

KEYS SMALL MAMMALS, RED-BACKED VOLES, MINNESOTA, HABITAT, WHITE CEDAR, 3

88 AUTH HALVORSON C. H.

DATE 1981.

TITL SMALL MAMMAL POPULATIONS.

PUBL IN CLEARCUTTING AND FIRE IN THE LARCH-FIR FORESTS OF WESTERN MONTANA -- A MULTIFACETED RESEARCH SUMMARY. N. V. DEBYLE. USDA FOR. SERV. GEN. TECH. REP. INT-99. INTERMT. FOR. AND RANGE EXP. STN., OGDEN, UTAH.

ANNO AFTER CLEARCUTTING AND BURNING: DEER MICE INCREASED, RED-BACKED VOLES DISAPPEARED, CHIPMUNKS WERE REDUCED, AND LONG-TAILED VOLES WERE CAUGHT FOR THE FIRST TIME.

KEYS SMALL MAMMALS, DEER MOUSE, RED-TAILED CHIPMUNK, RED-BACKED VOLES, VAGRANT SHREW, FOOD HABITS, VEGETATION STRUCTURE, POST-FIRE SUCCESSION, LARCH-FIR, MONTANA, CLEARCUT, POPULATION

DENSITY, REPRODUCTION, BROADCAST FIRE, 1

- 89 AUTH HAMILTON W. J. JR.
 - DATE 1930.
 - TITL FOOD OF THE SORICIDAE.
 - PUBL J. MAMMAL. 11:26-39.
 - ANNO INSECTS MAKE UP MORE THAN HALF THE DIET OF THE SHREWS EXAMINED.
 - KEYS SMALL MAMMALS, INSECTS, FOOD HABITS, SHREWS, MICE, BIRDS, 2, LOGGING
- 90 AUTH HAMILTON W. J. JR., COOK D. B.
 - DATE 1940.
 - TITL SMALL MAMMALS AND THE FOREST.
 - PUBL J. FOR. 38(6):468-473.
 - ANNO SMALL MAMMALS BENEFIT THE FOREST BY CONSUMING LARGE QUANTITIES OF INJURIOUS INSECTS, IMPROVING SOIL AERATION, AND PROVIDING FOOD FOR PREDATORY BIRDS AND MAMMALS. SUGGESTS MANAGEMENT PRACTICES TO INCREASE SMALL MAMMAL POPULATIONS.
 - KEYS SMALL MAMMALS, FOOD HABITS, INSECTS, HABITAT, SOIL AERATION, 1
- 91 AUTH HANDLEY C. O. JR.
 - DATE 1969.
 - TITL FIRE AND MAMMALS.
 - PUBL TALL TIMBERS FIRE ECOL. CONF. 9:151-159.
 - ANNO DISCUSSION OF ADAPTATIONS OF MAMMALS TO FIRE. EMPHASIS ON GRASSLAND HABITATS.
 - KEYS PIKA, SMALL MAMMALS, LARGE MAMMALS, GRASSLAND, BEHAVIORAL ADAPTATIONS, MORPHOLOGICAL ADAPTATIONS, WILDFIRE, 2
- 92 AUTH HANSEN L. P., WARNOCK J. E.
 - DATE 1978.
 - TITL RESPONSE OF TWO SPECIES OF PEROMYSCUS TO VEGETATIONAL SUCCESSION OF LAND STRIP-MINED FOR COAL.
 - PUBL AM. MIDL. NAT. 100(2):416-423.
 - KEYS SMALL MAMMALS, DEER MOUSE, WHITE-FOOTED MOUSE, PLANT SUCCESSION, STRIP-MINING, 2
- 93 AUTH HANSON E. E.
 - DATE 1977.
 - TITL RADIOTELEMETRY STUDIES OF ARCTIC FOXES IN PRUDHOE BAY, ALASKA.
 - PUBL ECOLOGY SECTION H-8 UNIV. OF CALIF. LOS ALAMOS SCIENTIFIC LAB.
 LOS ALAMOS, NEW MEXICO 87544.
 - ANNO REPORT ON THE ECOLOGY OF ARCTIC FOX IN PRUDHOE BAY. SOME INFORMATION ON THE EFFECT OF LEMMING POPULATIONS ON THE REPRODUCTION OF FOXES.
 - KEYS ARCTIC FOX,, BIRDS, PREDATION, POPULATION DENSITY, ALASKA, SMALL MAMMALS, 3, PREDATORS
- 94 AUTH HANSON E. E.
 - DATE 1978.
 - TITL THE IMPACT OF A PRESCRIBED BURN IN A TEMPERATE SUBALPINE FOREST UPON THE BREEDING BIRD AND SMALL MAMMAL POPULATIONS.
 - PUBL M.S. THESIS. CENTRAL WASHINGTON UNIV., ELLENSBURG, WA. 55P.
 - ANNO POPULATION DENSITIES OF SMALL MAMMALS DECLINED FOLLOWING BURNING EXCEPT FOR THE YELLOW PINE CHIPMUNK. THE DECLINE OF THE OTHER SPECIES WAS ATTRIBUTED TO THE LACK OF GROUND VEGETATION THE FIRST SUMMER FOLLOWING THE BURN. THE NUMBER OF BIRDS REMAINED THE SAME AFTER BURNING BUT THE SPECIES DIVERSITY INCREASED.

- KEYS BIRDS, YELLOW-PINE CHIPMUNK, TOWNSEND'S CHIPMUNK, DOUGLAS'
 SQUIRREL, RED-BACKED VOLES, DEER MOUSE, SPECIES DIVERSITY,
 POPULATION DENSITY, HABITAT, MOSAIC, SMALL MAMMALS, PRESCRIBED
 FIRE, SUBALPINE FOREST, WASHINGTON, 2
- 95 AUTH HARRIS A. S.

DATE 1968.

TITL SMALL MAMMALS AND NATURAL REFORESTATION IN SOUTHEAST ALASKA.

PUBL USDA FOR. SERV. RES. NOTE PNW-75, 7P. PAC. NORTHWEST FOR. AND RANGE EXP. STN., PORTLAND, ORE.

ANNO CONTRARY TO THE USUAL SMALL MAMMAL POPULATION RESPONSES TO LOGGING, IN THIS STUDY PEROMYSCUS WERE SIX TIMES MORE PLENTIFUL IN THE TIMBER THAN IN THE CUTOVER PLOTS, WHEREAS MICROTUS WERE SIX TIMES, AND SOREX TWICE AS NUMEROUS ON THE CUT. DESPITE SMALL MAMMALS, ADEQUATE NATURAL REGENERATION OF SITKA SPRUCE AND WESTERN HEMLOCK OCCURRED.

KEYS SMALL MAMMALS, ALASKA, DEER MOUSE, VOLES, SHREWS, LOGGING, SITKA SPRUCE, WESTERN HEMLOCK, 2

96 AUTH HARTESVELDT R. J., HARVEY H. T.

DATE 1967.

TITL THE FIRE ECOLOGY OF SEQUOIA REGENERATION.

PUBL TALL TIMBERS FIRE ECOL. CONF. 7:65-77.

ANNO CHICKAREES HARVEST AND EAT THE FLESH OF THE SEQUOIA CONE SCALES. THE SEEDS ARE ONLY PARTIALLY CONSUMED. AFTER FIRES WHICH KILL MANY FIRS AND PINES, CHICKAREES RELY MORE ON SEQUOIA CONES AND POSSIBLY INCREASE THE DISPERSAL OF SEEDS AT A TIME WHEN SUBSTRATE CONDITIONS RESULTING FROM FIRE ARE OPTIMAL FOR REGENERATION.

KEYS DOUGLAS' SQUIRREL, SEQUOIA, FOOD HABITS, SMALL MAMMALS, WILDFIRE, 3

97 AUTH HARTESVELDT R. J., HARVEY H. T., SHELLHAMMER H. S., STECKER R. E.

DATE 1975.

TITL THE GIANT SEQUOIA OF THE SIERRA NEVADA.

PUBL USDI NATIONAL PARK SERVICE, WASHINGTON D.C. 180P.

ANNO DESCRIBES THE EFFECT OF THE CHICKAREE ON THE DISPERSAL OF SEQUOIA SEED.

KEYS SMALL MAMMALS, DOUGLAS' SQUIRREL, SEQUOIA, FOOD HABITS, 3

98 AUTH HAWLEY V. D., NEWBY F. E.

DATE 1957.

TITL MARTEN HOME RANGE AND POPULATION FLUCTUATIONS.

PUBL J. MAMMAL. 38(2):174-184.

ANNO HOME RANGES FOR 6 MALE MARTEN AVERAGED .92 SQ. MILES, AND .27 SQ. MILES FOR 5 FEMALES. POPULATION FLUCTUATIONS OF MARTEN RESPONDED TO THE NUMBERS OF SMALL MAMMALS.

KEYS MARTEN, POPULATION DENSITY, GLACIER NATIONAL PARK, PREDATORS, SMALL MAMMALS, 3, MONTANA

99 AUTH HAYWARD C. L.

DATE 1940.

TITL FEEDING HABITS OF THE RED SQUIRREL.

PUBL J. MAMMAL. 21(2):220.

ANNO RECORDS OF RED SQUIRREL CONE CUTTING ACTIVITY AND NUMBER OF DOUGLAS-FIR SEEDS CONSUMED AT ONE TIME.

KEYS RED SQUIRREL, SMALL MAMMALS, FOOD HABITS, DOUGLAS-FIR, SEED, UTAH, 3

100 AUTH HEALEY M. C.

DATE 1967.

TITL AGGRESSION AND SELF-REGULATION OF POPULATION SIZE IN DEER MICE.

PUBL ECOLOGY 48(3):377-391.

ANNO CHANGES IN GROWTH AND SURVIVAL OF YOUNG DEER MICE CORRELATED TO CHANGES IN THE AGGRESSIVENESS OF ADULT MICE.

KEYS SMALL MAMMALS, DEER MOUSE, POPULATION DENSITY, BRITISH COLUMBIA, REPRODUCTION, 3

101 AUTH HICKIE P.

DATE 1957.

THE APPLICATION OF ECOLOGY TO WILDLIFE MANAGEMENT. TITL

PUBL ECOLOGY 38(1):53-56.

ANNO RODENT POPULATIONS INCREASE IN WEEDY SHRUBBY HABITAT AFTER LOGGING. AERIAL SEEDING OF DOUGLAS-FIR REQUIRES RODENT CONTROL FOR SUCCESS. DESCRIBES METHODS OF POSSIBLE CONTROL.

KEYS SMALL MAMMALS, RODENTS, FOOD HABITS, SEED, DOUGLAS-FIR, POPULATION DENSITY, PACIFIC NORTHWEST, LOGGING, PLANT SUCCESSION, GRAZING, 2

102 AUTH HISAW F. L., GLOYD H. K.

DATE 1926.

TITL THE BULL SNAKE AS A NATURAL ENEMY OF INJURIOUS RODENTS.

PUBL J. MAMMAL. 7(3):200-205.

ANNO DESCRIPTION OF THE BULL SNAKE AS A PREDATOR OF POCKET GOPHER. DESCRIBES KILLING TECHNIQUE AND BURROWING HABITS OF THE SNAKE AS WELL AS THE POTENTIAL CONSUMPTION OF GOPHERS.

KEYS SMALL MAMMALS, REPTILES, PREDATION, BULL SNAKE, POCKET GOPHERS,

103 AUTH HOFFMAN G. R.

DATE 1960.

TITL THE SMALL MAMMAL COMPONENTS OF SIX CLIMAX PLANT ASSOCIATIONS IN EASTERN WASHINGTON AND NORTHERN IDAHO.

PUBL ECOLOGY 41(3):571-572.

ANNO AN EXTENSION OF RICKARD'S 1960 PAPER. IDENTIFIES ELEVEN SPECIES OF SMALL MAMMALS FROM 6 CLIMAX PLANT ASSOCIATIONS THAT HAD NOT BEEN STUDIED BY RICKARD. DESCRIBES HABITATS OF DIFFERENT SPECIES.

KEYS SMALL MAMMALS, IDAHO, WASHINGTON, HABITAT, CHIPMUNKS, RED-BACKED VOLES, SHREWS, DEER MOUSE, MEADOW VOLE, 3

104 AUTH HOFFMAN R. S., PATTIE D. L.

> DATE 1968.

TITL A GUIDE TO MONTANA MAMMALS: IDENTIFICATION, HABITAT, DISTRIBUTION AND ABUNDANCE.

PUBL UNIVERSITY OF MONTANA PRINTING SERVICES, MISSOULA. 133P.

IDENTIFICATION KEY, HABITAT DESCRIPTION, AND DISTRIBUTION MAPS ANNO FOR MONTANA MAMMALS.

KEYS SMALL MAMMALS, PREDATORS, LARGE MAMMALS, IDENTIFICATION KEY, HABITAT, MONTANA

105 AUTH HOOVEN E. F.

DATE 1958.

TITL THE RELATIONSHIP OF THE WHITE-FOOTED DEER MOUSE TO REFORESTATION BY DIRECT SEEDING IN THE TILLAMOOK BURN.

PUBL

M.S. THESIS, OREGON STATE UNIV., CORVALLIS. 72P.
THE WHITE-FOOTED DEER MOUSE EATS AND STORES LARGE QUANTITIES OF ANNO CONIFER SEEDS, WHICH PRESENTS A PROBLEM TO REFORESTATION.

SUCCESS OF CONTROL PROGRAM DEPENDS ON KNOWLEDGE OF LIFE HISTORY FOR BEST TIME TO ATTEMPT CONTROL.

KEYS SMALL MAMMALS, DEER MOUSE, SEED, FOOD HABITS, OREGON, 3

106 AUTH HOOVEN E. F.

DATE 1969.

TITL THE INFLUENCE OF FOREST SUCCESSION ON POPULATIONS OF SMALL MAMMALS IN WESTERN OREGON.

PUBL IN WILDLIFE AND REFORESTATION IN THE PACIFIC NORTHWEST. P. 30-34. H. C. BLACK, ED. SCHOOL OF FORESTRY, ORE. STATE UNIV., CORVALLIS.

ANNO REVIEW OF EFFECTS OF FIRE, LOGGING AND OTHER DISTURBANCE ON SMALL ANIMALS. IN OREGON STUDY AREAS, SMALL MAMMALS MORE ABUNDANT IN RECENTLY LOGGED AREA THAN IN MATURE DOUGLAS-FIR. SUCCESSION OF SMALL MAMMAL AND BIRD SPECIES RELATED TO PLANT SUCCESSION AFTER LOGGING AND FIRE.

KEYS SMALL MAMMALS, LOGGING, WILDFIRE, OREGON, DOUGLAS-FIR, BIRDS, DEER MOUSE, POST-FIRE SUCCESSION, POPULATION DENSITY, SPECIES COMPOSITION, HABITAT, FOOD HABITS, REPRODUCTION, PRESCRIBED FIRE, 1

107 AUTH HOOVEN E. F.

DATE 1971.

TITL POCKET GOPHER DAMAGE ON PONDEROSA PINE PLANTATIONS IN SOUTHWESTERN OREGON.

PUBL J. WILDL. MANAGE. 35(2):346-353.

ANNO PONDEROSA SEEDLING SURVIVAL WAS REDUCED TO 12% IN AREAS OCCUPIED BY POCKET GOPHERS. CONTROL OF POCKET GOPHERS IS GENERALLY UNSUCCESSFUL. SUGGESTS CONTROLLING GOPHER POPULATIONS BY MODIFYING THE HABITAT I.E. CHANGING THE VEGETATION OR OTHER IMPORTANT PHYSICAL REQUIREMENTS.

KEYS SMALL MAMMALS, POCKET GOPHERS, PONDEROSA PINE, OREGON, SEED, FOOD HABITS, LOGGING, POPULATION DENSITY, 1, DAMAGE

108 AUTH HOOVEN E. F.

DATE 1973.

TITL EFFECTS OF VEGETATIONAL CHANGES ON SMALL FOREST MAMMALS.

PUBL IN EVEN-AGE MANAGEMENT SYMPOSIUM P.75-97, R. K. HERMANN AND D. P. LAVENDER, EDS., OREGON STATE UNIV, CORVALLIS. 249P.

ANNO LITERATURE REVIEW OF THE EFFECTS OF VEGETATIONAL CHANGES ON SMALL MAMMALS. CONCLUDES THAT REGARDLESS OF FOREST TREATMENT, THE SMALL MAMMAL BIOMASS REMAINS COMPARABLE TO THAT IN THE UNCUT FOREST AND EXERTS THE SAME PRESSURE ON REGENERATION.

KEYS SMALL MAMMALS, CLEARCUT, FIRE, LOGGING, POST-FIRE SUCCESSION, SEED, FOOD HABITS, SPECIES COMPOSITION, POPULATION DENSITY, 2

109 AUTH HOOVEN E. F.

DATE 1973.

TITL RESPONSE OF THE OREGON CREEPING VOLE TO THE CLEARCUTTING OF A DOUGLAS FIR FOREST.

PUBL NORTHWEST SCI. 47(4):256-264.

ANNO THREE YEAR STUDY OF EFFECT OF CLEARCUTTING AND BURNING ON CREEPING VOLE. VOLES INCREASED RAPIDLY WHEN TIMBER WAS REMOVED. INCREASED HERBACEOUS GROWTH AND RELEASED NUTRIENTS MAY IMPROVE HABITAT FOR VOLES.

KEYS CREEPING VOLE, SMALL MAMMALS, DOUGLAS-FIR, OREGON, CLEARCUT, HABITAT, POST-FIRE SUCCESSION, REPRODUCTION, POPULATION DENSITY, SLASH FIRE, 2

110 AUTH HOOVEN E. F.

DATE 1973.

TITL A WILDLIFE BRIEF FOR THE CLEARCUT LOGGING OF DOUGLAS-FIR.

PUBL J. FOR. 71(4):210-214.

ANNO STAGGERED CLEARCUT LOGGING OF 30 TO 60 ACRES IS BENEFICIAL TO WILDLIFE IN NORTHWESTERN OREGON. SMALL MAMMAL POPULATIONS INCREASE AS THE VEGETATION INCREASES AND ASSOCIATED ANTHROPOD POPULATIONS INCREASE. DESCRIBES SUCCESSIONAL STAGES PREFERRED BY DIFFERENT SMALL MAMMALS.

KEYS CLEARCUT, DOUGLAS-FIR, LARGE MAMMALS, SMALL MAMMALS, FISH, SOIL CHARACTERISTICS, OREGON, REPTILES, BIRDS, PLANT SUCCESSION, 1

111 AUTH HOOVEN E. F.

DATE 1975.

TITL BAITING TO REDUCE LOSSES OF CONIFER SEEDS TO SMALL FOREST MAMMALS.

PUBL RES. NOTE NO. 55. SCHOOL OF FOR., ORE. STATE UNIV. AND FOR. RES. LAB., CORVALLIS.

ANNO A CAGED DEER MOUSE CAN EAT 250-350 DOUGLAS-FIR SEEDS PER DAY.

DESCRIBES THE EFFECTIVENESS OF DIFFERENT RODENTICIDES TO

CONTROL SMALL MAMMALS WHICH EAT CONIFER SEEDS.

KEYS SMALL MAMMALS, FOOD HABITS, POISONS, POPULATION DENSITY, OREGON

112 AUTH HOOVEN E. F., BLACK H. C., LOWRIE J. C.

DATE 1979.

TITL DISTURBANCE OF SMALL MAMMAL LIVE TRAPS BY SPOTTED SKUNKS.

PUBL NORTHWEST SCI. 53(2):79-81.

ANNO SKUNKS WERE CONSIDERED RESPONSIBLE FOR DISTURBING SMALL MAMMAL TRAPS AND EATING TRAPPED MICE.

KEYS SMALL MAMMALS, SKUNK, PREDATORS, SLASH FIRE, TRAPPING, OREGON, LOGGING, DEER MOUSE, SHREWS, TOWNSEND'S CHIPMUNK, CREEPING VOLE, 2

113 AUTH HORN E. E.

DATE 1938.

TITL SOME WILDLIFE-FOREST RELATIONSHIPS.

PUBL TRANS. N. AM. WILDL. CONF. 3:376-380.

ANNO DISCUSSES THE EFFECTS OF FIRE AND LOGGING ON WILDLIFE IN TERMS OF COVER, FOOD, AND PREDATION.

KEYS SMALL MAMMALS, FOOD HABITS, VEGETATION STRUCTURE, LARGE MAMMALS, LOGGING, PREDATION, HABITAT, MORTALITY, PRESCRIBED FIRE, 2

114 AUTH HORTON J.

DATE 1930.

TITL BIRDS AND ANIMALS KILLED BY FOREST FIRES.

PUBL MURRELET 11(2):22.

KEYS MAMMALS, BIRDS, WILDFIRE, MORTALITY, 2

115 AUTH HOUTCOOPER W. C.

DATE 1978.

TITL FOOD HABITS OF RODENTS IN A CULTIVATED ECOSYSTEM.

PUBL J. MAMMAL. 59(2):427-430.

ANNO RODENTS UTILIZED PLANT MATERIAL FOR FOOD IN WINTER, ANIMAL MATERIAL (INSECTS) UTILIZED IN SUMMER.

KEYS SMALL MAMMALS, HOUSE MOUSE, DEER MOUSE, FOOD HABITS, INDIANA, CORN, 3

116 AUTH HOWARD W. E., FENNER R. L., CHILDS H. E. JR.

DATE 1959.

TITL WILDLIFE SURVIVAL ON BRUSH BURNS.

PUBL J. RANGE MANAGE. 12:230-234.

ANNO MOST VERTEBRATES ARE NOT KILLED BY FIRE. CHANGES IN POPULATION DENSITIES AFTER FIRE ARE IN RESPONSE TO ALTERATIONS OF HABITAT. DATA TAKEN FROM ANIMALS IN CAGES WITH TEMPERATURE RECORDING DEVICES AND OBSERVATIONS OF WILD ANIMALS BEFORE, DURING AND AFTER THE FIRE.

KEYS SMALL MAMMALS, REPTILES, MORTALITY, BRUSH-GRASS, CALIFORNIA, BIRDS, PRESCRIBED FIRE, 1

117 AUTH INGRAM R.

DATE 1973.

TITL WOLVERINE, FISHER, AND MARTEN IN CENTRAL OREGON.

PUBL OREGON STATE GAME COMM. CENTRAL REGION ADM. REP. 73-2. 39P.

ANNO LOGGING AND FIRE HAVE A NEGATIVE EFFECT ON FISHER AND MARTEN POPULATIONS. WOLVERINE HAVE BEEN LESS EFFECTED BECAUSE OF THE REMOTENESS OF THEIR HABITAT. HUMAN ACTIVITY WILL LIMIT WOLVERINE POPULATIONS. DISCUSSION OF HABITAT, FOOD HABITS AND REPRODUCTION.

KEYS WOLVERINE, FISHER, MARTEN, OREGON, PREDATORS, PREDATION, SMALL MAMMALS, HABITAT, LOGGING, FIRE, CONIFEROUS FOREST, POPULATION DENSITY, 3

118 AUTH JAMESON E. W. JR.

DATE 1955.

TITL SOME FACTORS AFFECTING FLUCTUATIONS OF MICROTUS AND PEROMYSCUS.

PUBL J. MAMMAL. 36(2):206-209.

ANNO DISCUSSES THE DIFFERENCES IN POPULATION FLUCTUATIONS OF PEROMYSCUS AND MICROTUS AND THEIR RELATIONSHIP TO FACTORS SUCH AS FOOD QUALITY, FOOD QUANTITY, HABITAT, AND STRESS.

KEYS SMALL MAMMALS, VOLES, DEER MOUSE, POPULATION DENSITY, FOOD HABITS, 2

119 AUTH JOHNSON D. R., HANSEN R. M.

DATE 1969.

TITL EFFECTS OF RANGE TREATMENT WITH 2,4-D ON RODENT POPULATIONS.

PUBL J. WILDL. MANAGE. 33(1):125-132.

ANNO TREATMENT WITH 2,4-D RESULTED IN AN INCREASE IN GRASS COVER AND A DECREASE IN FORBS AND BRUSH. DISCUSSES EFFECT ON POPULATION DENSITY AND LITTER SIZE OF VARIOUS RODENTS. 2,4-D CAUSED A REDUCTION OF GOPHERS AND CHIPMUNKS, WHILE VOLES INCREASED. GOPHERS RESPONDED PRIMARILY TO CHANGES IN FOOD, CHIPMUNKS TO FOOD AND COVER, AND VOLES TO COVER.

KEYS SMALL MAMMALS, POPULATION DENSITY, HERBICIDE, COLORADO, BRUSH-GRASS, DEER MOUSE, POCKET GOPHERS, MONTANE VOLE, LEAST CHIPMUNK, FOOD HABITS, VEGETATION STRUCTURE, 1

120 AUTH JOHNSON M.K., HANSEN R. M.

DATE 1979.

TITL COYOTE FOOD HABITS ON THE IDAHO NATIONAL ENGINEERING LABORATORY.

PUBL J. WILDL. MANAGE. 43(4):951-956.

ANNO COYOTES SELECT AN ABUNDANT FOOD AND MAKE IT A STAPLE AND THEREFORE ARE SELECTIVE RATHER THAN OPPORTUNISTIC PREDATORS.

KEYS PREDATORS, COYOTE, FOOD HABITS, IDAHO, SAGEBRUSH, SMALL MAMMALS, PREDATION, RABBITS, 1

121 AUTH JONES J. H., SMITH N. S.

DATE 1979.

TITL BOBCAT DENSITY AND PREY SELECTION IN CENTRAL ARIZONA.

PUBL J. WILDL. MANAGE. 43(3):666-672.

ANNO ANALYSIS OF BOBCAT SCATS FROM THREE BAR WILDLIFE AREA INDICATED THAT RODENTS (67%), AND LAGOMORPHS (38%), WERE THE MOST COMMON FOOD ITEMS. POPULATION DENSITIES OF RODENTS AND LAGOMORPHS WERE NOT RELATED TO THE SELECTION OF PREY BY BOBCATS.

KEYS PREDATORS, BOBCAT, PREDATION, ARIZONA, SMALL MAMMALS, DESERT COTTONTAIL, KANGAROO RATS, POCKET MOUSE, WOODRATS, BLACK-TAILED JACK RABBIT, 1

122 AUTH KEITH L. B., SURRENDI P. C.

DATE 1971.

TITL EFFECTS OF FIRE ON A SNOWSHOE HARE POPULATION.

PUBL J. WILDL. MANAGE. 35(1):16-26.

ANNO SNOWSHOE HARES MOVED FROM SEVERELY BURNED SITES TO SURROUNDING HABITAT, RETURNING THE SECOND SUMMER AFTER THE FIRE AS BRUSH COVER SPROUTED. THERE WAS NO EVIDENCE OF HARES KILLED BY THE FIRE

KEYS SMALL MAMMALS, SNOWSHOE HARE, MORTALITY, MIGRATION, POPULATION DENSITY, REPRODUCTION, ALBERTA, WILDFIRE, 2

123 AUTH KEITH L. B., TODD A. W., BRAND C. J., ADAMCIK R. S., RUSH D. H. DATE 1977.

TITL AN ANALYSIS OF PREDATION DURING A CYCLIC FLUCTUATION OF SNOWSHOE HARES.

PUBL PROC. INT. CONGR. GAME BIOL. 13:151-175.

ANNO DESCRIPTION OF LYNX, COYOTE, AND RAPTOR, POPULATION RESPONSES TO FLUCTUATIONS IN HARE AND GROUSE DENSITIES. SUGGESTS THE 10-YEAR CYCLE IS GENERATED INTRINSICALLY BY SUCCESSIVE HARE-VEGETATION AND HARE-PREDATOR CYCLES.

KEYS SMALL MAMMALS, PREDATORS, RAPTORS, SNOWSHOE HARE, LYNX, COYOTE, GREAT HORNED OWL, GOSHAWK, RED-TAILED HAWK, BIRDS, RUFFED GROUSE, POPULATION DENSITY, LYNX, 2

124 AUTH KIPP D. H.

DATE 1941.

TITL WILDLIFE IN A FIRE.

PUBL AM. FOR. 37(6):323-325.

ANNO DESCRIBES DIRECT EFFECTS OF WILDFIRE ON WILDLIFE.

KEYS WILDFIRE, MORTALITY, WISCONSIN, BIRDS, LARGE MAMMALS, SMALL MAMMALS, RABBITS, RAPTORS, FISH, FALL BURN, BIRDS, 2

125 AUTH KIRKLAND G. L. JR.

DATE 1977.

TITL RESPONSES OF SMALL MAMMALS TO THE CLEARCUTTING OF NORTHERN APPALACHIAN FORESTS.

PUBL J. MAMMAL. 58(4):600-609.

ANNO CLEARCUTTING IN BOTH NORTHERN DECIDUOUS AND BOREAL CONIFEROUS FORESTS RESULTED IN INCREASED SMALL MAMMAL ABUNDANCE AND DIVERSTY WHICH PERSISTED UNTIL SUCCESSION RETURNED THE AREA TO FOREST.

KEYS SMALL MAMMALS, CLEARCUT, SPECIES DIVERSITY, POPULATION DENSITY, WEST VIRGINIA, PLANT SUCCESSION, 2

126 AUTH KIRKPATRICK R. C.

DATE 1941.

TITL EFFECTS OF FIRES ON WILDLIFE.

PUBL WIS. CONSERV. BULL. 6(5):28-30.

KEYS SMALL MAMMALS, FIRE

127 AUTH KLEBENOW D. R., BEALL R., BRUNER A., MASON R., ROUNDY B., STAGER W., WARD K.

DATE 1976.

TITL CONTROLLED FIRE AS A MANAGEMENT TOOL IN THE PINYON-JUNIPER WOODLAND, NEVADA

PUBL ANN. PROG. REP. COOP. RES. USDA AND NEV. AGRIC. STN.

ANNO CONTROLLED BURNING INCREASED NUMBERS OF RODENTS AND BIRDS. SPECIES DIVERSITY INCREASED FOR BIRDS, BUT DECREASED FOR RODENTS.

KEYS PRESCRIBED FIRE, SMALL MAMMALS, BIRDS, NEVADA, PINYON-JUNIPER, POPULATION DENSITY, SPECIES DIVERSITY, 3

128 AUTH KOEHLER G. M., HORNOCKER M. G.

DATE 1977.

TITL FIRE EFFECTS ON MARTEN HABITATS.

PUBL J. WILDL. MANAGE. 41(3):500-505.

ANNO DESCRIBES THE EFFECTS OF FIRE ON MARTEN HABITAT AND FOOD SOURCES.

KEYS MARTEN, VOLES, DEER MOUSE, CHIPMUNKS, PREDATION, HABITAT, IDAHO, FOOD HABITS, SMALL MAMMALS, PREDATORS, WILDFIRE, 2

129 AUTH KOEHLER G. M., MOORE W. R., TAYLOR A. R.

DATE 1975.

TITL PRESERVING THE PINE MARTEN MANAGEMENT GUIDELINES FOR WESTERN FORESTS.

PUBL WESTERN WILDLANDS 2(3):31-36.

ANNO DESCRIBES MARTEN HABITAT REQUIREMENTS AND FOOD HABITS. GIVES GUIDELINES FOR FOREST MANAGEMENT FOR MARTEN HABITAT.

KEYS MARTEN, HABITAT, FOOD HABITS, PREDATION, SMALL MAMMALS, IDAHO, MOSAIC, WILDFIRE, LOGGING, 3

130 AUTH KOMAREK E. V. SR.

DATE 1963.

TITL FIRE, RESEARCH, AND EDUCATION.

PUBL TALL TIMBERS FIRE ECOL. CONF. 2:181-187.

ANNO COTTON RATS DECREASED AND GOLDEN MICE AND COTTON MICE INCREASED WHEN AN OPEN PINE WOODS WAS PROTECTED FROM FIRE FOR 4 YEARS.

NONE OF THE 52 COTTON RATS ON A 4 ACRE BROOM-SEDGE FIELD WERE HARMED WHEN THE FIELD WAS BURNED AND ONLY 6 WERE SEEN ON THE FIRE BREAK. THE REST HAD TAKEN REFUGE IN 'POP HOLES'.

KEYS COTTON RAT, GOLDEN MOUSE, COTTON MOUSE, MORTALITY, POPULATION DENSITY, SOUTHEAST, SMALL MAMMALS, PRESCRIBED FIRE, 2

131 AUTH KOMAREK E. V. SR.

DATE 1965.

TITL FIRE ECOLOGY-GRASSLANDS AND MAN.

PUBL TALL TIMBERS FIRE ECOL. CONF. 4:169-220.

ANNO DESCRIBES DIRECT AND INDIRECT EFFECTS OF FIRE ON PREDATORS AND PREY IN GRASSLAND.

KEYS COTTON RAT, HOUSE MOUSE, OLDFIELD MOUSE, GRAY FOX, RED FOX, SHRIKE, RAPTORS, PREDATION, BEHAVIORAL ADAPTATIONS, GRASSLAND, SMALL MAMMALS, WILDFIRE, 2

132 AUTH KOMAREK E. V. SR.

DATE 1969.

TITL FIRE AND ANIMAL BEHAVIOR.

PUBL TALL TIMBERS FIRE ECOL. CONF. 9:161-207.

ANNO DESCRIBES BEHAVIORAL ADAPTATIONS OF ANIMALS TO FIRE.

KEYS COTTON RAT, RABBITS, LARGE MAMMALS, REPTILES, AMPHIBIANS, BIRDS, MORTALITY, PREDATION, BEHAVIORAL ADAPTATIONS, SMALL MAMMALS, WILDFIRE, 1

133 AUTH KOMAREK R.

DATE 1963.

TITL FIRE AND THE CHANGING WILDLIFE HABITAT.

PUBL TALL TIMBERS FIRE ECOL. CONF. 5:177-194.

ANNO DISCUSSES THE EFFECTS OF FIRE ON PREY AND PREDATOR POPULATIONS.

KEYS DEER MOUSE, COLUMBIAN GROUND SQUIRREL, MOUNTAIN LION, COYOTE, BEAVER, MARTEN, LARGE MAMMALS, POPULATION DENSITY, PREDATION, SMALL MAMMALS, WILDFIRE, PRESCRIBED FIRE, 2, PREDATORS

134 AUTH KORSCHGEN L. J.

DATE 1957.

TITL FOOD HABITS -- COYOTES, FOXES, HOUSE CATS, BOBCATS -- IN MISSOURI.

PUBL MISSOURI CONSERV. COMM. P-R REP. 15, 64P.

ANNO STUDY OF THE PRINCIPLE FOODS OF COYOTES, FOXES, HOUSECATS, AND BOBCATS. RABBITS WERE GENERALLY THE MOST IMPORTANT PREY SPECIES.

KEYS PREDATORS, COYOTE, RED FOX, GRAY FOX, BOBCAT, HOUSECAT, SMALL MAMMALS, MISSOURI, BIRDS, 2

135 AUTH KREFTING L. W., AHLGREN C. E.

DATE 1974.

TITL SMALL MAMMALS AND VEGETATION CHANGES AFTER FIRE IN A MIXED CONIFER HARDWOOD FOREST.

PUBL ECOLOGY 55(6):1391-1398.

ANNO DEER MICE WERE THE MOST ABUNDANT SMALL MAMMALS ON 2 WILDFIRE AREAS IN MINNESOTA FOR THE FIRST 7 YEARS. LATER RED-BACKED VOLES INCREASED APPARENTLY IN RESPONSE TO VEGETATION CHANGES. FOOD AND COVER ARE IMPORTANT INFLUENCES ON SMALL MAMMAL POPULATIONS AFTER FIRE.

KEYS SMALL MAMMALS, POST-FIRE SUCCESSION, POPULATION DENSITY, DEER MOUSE, RED-BACKED VOLES, MEADOW VOLE, FOOD HABITS, HABITAT, MIXED CONIFER-HARDWOOD, MINNESOTA, WILDFIRE, 1

136 AUTH LAWRENCE G. E.

DATE 1966.

TITL ECOLOGY OF VERTEBRATE ANIMALS IN RELATION TO CHAPARRAL FIRE IN THE SIERRA NEVADA FOOTHILLS.

PUBL ECOLOGY 47(2):278-291.

ANNO REPORTS ON FIRE MORTALITY OF SMALL MAMMALS. MORTALITY FROM POST-FIRE PREDATION WAS CONSIDERED MORE SIGNIFICANT THAN FIRE MORTALITY. SPECIES CHANGED FROM BRUSH-DWELLING TO GRASS DWELLING BIRDS AND SMALL MAMMALS.

KEYS SMALL MAMMALS, BIRDS, PREDATORS, RAPTORS, POPULATION DENSITY, SPECIES DIVERSITY, MORTALITY, CHAPARRAL, CALIFORNIA, HABITAT, PRESCRIBED FIRE, RELATIVE HUMIDITY, 1

137 AUTH LAWRENCE W. H.

DATE 1954.

TITL MICHIGAN BEAVER POPULATIONS AS INFLUENCED BY FIRE AND LOGGING.

PUBL PH.D. DISSERTATION, UNIV. MICH., ANN ARBOR. 219P.

- ANNO BEAVER WERE STUDIED AS A COMPONENT OF THE FOREST COMMUNITY.

 FIRE, WINTHROW, AND LUMBERING HAVE MAJOR ROLES IN THE

 DISTRIBUTION AND ABUNDANCE OF BEAVER BY PROVIDING FAVORABLE

 HABITAT. SUGGESTS INTEGRATING BEAVER MANAGEMENT INTO THE FOREST

 MANAGEMENT PROGRAM AS A PART OF THE NATURALLY OCCURRING

 ASPEN-CONIFER SUCCESSIONAL CYCLE.
- KEYS SMALL MAMMALS, BEAVER, LOGGING, FIRE, MICHIGAN, ASPEN, PLANT SUCCESSION, 1
- 138 AUTH LENSINK C. J., SKOOG R. O., BUCKLEY J. L.

DATE 1955.

TITL FOOD HABITS OF MARTEN IN INTERIOR ALASKA AND THEIR SIGNIFICANCE.

PUBL J. WILDL. MANAGE. 19(3):364-368.

ANNO MARTEN SHOW GREAT FLEXIBILITY IN THEIR DIET. FOOD PLAYS A VERY IMPORTANT ROLE IN THE BEHAVIOR, MOVEMENTS AND SELECTION OF HABITAT BY MARTEN.

KEYS MARTEN, FOOD HABITS, PREDATION, ALASKA, PREDATORS, 2

139 AUTH LOBUE J., DARNELL R. M.

DATE 1959.

TITL EFFECT OF HABITAT DISTURBANCE ON A SMALL MAMMAL POPULATION.

PUBL J. MAMMAL. 40:425-437.

ANNO PRAIRIE DEER MICE SHOWED A POSITIVE RESPONSE TO REDUCED VEGETATION AFTER MOWING, WHILE MICROTUS PREFERRED COVER. FOLLOWING MOWING THERE WAS A CHANGE IN SEX RATIO AND IN THE INFLUX OF NEW INDIVIDUALS IN THE DISTURBED AREA.

KEYS SMALL MAMMALS, MEADOW VOLE, DEER MOUSE, MOWING, HABITAT, ALFALFA, MIGRATION, VEGETATION STRUCTURE, 2

140 AUTH LONG C. A., KERFOOT W. C.

DATE 1963.

TITL MAMMALIAN REMAINS FROM OWL-PELLETS IN EASTERN WYOMING.

PUBL J. MAMMAL. 44(1):129-131.

ANNO LIST OF SMALL MAMMALS FOUND IN OWL PELLETS.

KEYS BIRDS, SMALL MAMMALS, OWLS, PREDATION, WYOMING, 3

141 AUTH LOWE P. O.

DATE 1975.

TITL POTENTIAL WILDLIFE BENEFITS OF FIRE IN PONDEROSA PINE FORESTS.

PUBL M.S. THESIS. UNIV. ARIZONA, TUCSON.

ANNO QUANTIFICATION OF WILDLIFE BENEFITS FROM WILDFIRE IN TERMS OF TIME TREND RESPONSE CURVES CONVERTED TO ANNUITIES OR ANNUALIZED RETURN FROM THE RESOURCE. BENEFITS WERE EXPECTED FOR SOME RODENTS BUT LOSSES COULD BE EXPECTED FOR COTTONTAIL AND CHIPMUNKS.

KEYS WILDFIRE, SMALL MAMMALS, LARGE MAMMALS, BIRDS, ARIZONA,
HABITAT, COTTONTAIL RABBIT, CHIPMUNKS, RODENTS, PONDEROSA PINE,
2

- 142 AUTH LOWE P. O., FFOLLIOTT P. F., DIETERICH J. H., PATTON D. R. DATE 1978.
 - TITL DETERMINING POTENTIAL WILDLIFE BENEFITS FROM WILDFIRE IN ARIZONA PONDEROSA PINE FORESTS.
 - PUBL USDA FOR. SERV. GEN. TECH. REP. RM-52. 12P. ROCKY MT. FOR. AND RANGE EXP. STN., FORT COLLINS, CO.
 - ANNO WILDLIFE USE OF BURNED AREAS WAS EVALUATED AND CONVERTED TO DOLLAR VALUES OF BENEFITS TO WILDLIFE. WILDLIFE USE OF AREAS 1, 3, 7, AND 20 YEARS AFTER FIRE WAS STUDIED.

KEYS RODENTS, WHITE-TAILED DEER, ELK, BIRDS, POST-FIRE SUCCESSION, FOOD HABITS, HABITAT, PONDEROSA PINE, ARIZONA, POPULATION DENSITY, SMALL MAMMALS, LARGE MAMMALS, WILDFIRE, 3

143 AUTH LUBINA J. A.

DATE 1978.

TITL THE EFFECTS OF FIRE ON RODENT POPULATIONS IN THE CHAPARRAL OF SOUTHERN CALIFORNIA: A COMPARATIVE APPROACH.

PUBL M.A. THESIS. CALIF. STATE UNIV., LONG BEACH. 98P.

ANNO FIRE CAUSED A REDUCTION IN SHRUB COVER AND AN INCREASE IN HERBACEOUS VEGETATION. AS A RESULT, THE AGILE KANGAROO RAT INCREASED IN NUMBERS, THE DUSKY-FOOTED WOODRAT DECREASED, DEER MICE AND CALIFORNIA VOLES COLONIZED THE BURNED SITE AND BRUSH MICE DISAPPEARED. POCKET MICE AND CALIFORNIA VOLE DENSITIES WERE LEAST AFFECTED BY THE FIRE. THE INDIRECT IMPACT OF CHANGE IN VEGETATION STRUCTURE WAS THE MOST IMPORTANT IMPACT OF THE

KEYS SMALL MAMMALS, FIRE, CHAPARRAL, CALIFORNIA, SPECIES COMPOSITION, POPULATION DENSITY, VEGETATION STRUCTURE, 1, KANGAROO RATS, DUSKY-FOOTED WOODRAT, DEER MOUSE, CALIFORNIA VOLE, BRUSH MOUSE

144 AUTH LUTZ H. J.

DATE 1956.

TITL THE ECOLOGICAL EFFECTS OF FOREST FIRES IN THE INTERIOR OF

PUBL U.S. DEP. AGRIC. TECH. BULL. 1133. 121P.

ANNO FIRE CAUSES THE DISAPPEARANCE OF MARTEN. SMALL MAMMALS WHICH ARE FOOD FOR PREDATORS ARE KILLED WHEN THEIR HABITAT BURNS.

KEYS MARTEN, ALASKA, SMALL MAMMALS, PREDATORS, WILDFIRE, BIRDS, FISHER, LYNX, ERMINE, LARGE MAMMALS, HABITAT, 3

145 AUTH LYON L. J., CRAWFORD H. S., CZUHAI E., FREDRIKSEN R.L., HARLOW R. F., METZ L. J., PEARSON H. A.

DATE 1978.

TITL EFFECTS OF FIRE ON FAUNA A STATE OF THE ART REVIEW.

PUBL USDA FOR. SERV. GEN. TECH. REP. WO-6, 41P.

ANNO REVIEW OF THE LITERATURE ON THE EFFECTS OF FIRE ON ANIMALS, INCLUDING INVERTEBRATES.

KEYS FIRE, SMALL MAMMALS, LARGE MAMMALS, BIRDS, HABITAT, VEGETATION STRUCTURE, MORTALITY, BIBLIOGRAPHY, 1

146 AUTH MANVILLE R. H.

DATE 1959.

TITL THE COLUMBIAN GROUND SQUIRREL IN NORTHWESTERN MONTANA.

PUBL J. MAMMAL. 40(1):26-45.

ANNO A LIFE HISTORY OF COLUMBIAN GROUND SQUIRRELS IN GLACIER NATIONAL PARK.

KEYS SMALL MAMMALS, COLUMBIAN GROUND SQUIRREL, MONTANA, 2

147 AUTH MARSHALL J. T. JR.

DATE 1942.

TITL FOOD AND HABITAT OF THE SPOTTED OWL.

PUBL CONDOR 44(2):66-67.

ANNO SPOTTED OWL PREYS ON SMALL MAMMALS, BIRDS, AND CRICKETS. HABITAT RATHER THAN FOOD SEEM TO LIMIT DISTRIBUTION.

KEYS RAPTORS, PREDATION, SMALL MAMMALS, SPOTTED OWL, TRANSITION ZONE FOREST, OREGON, BIRDS, 3

148 AUTH MARSHALL W. H.

DATE 1942.

TITL THE BIOLOGY AND MANAGEMENT OF THE PINE MARTEN IN IDAHO.

PUBL PH.D. DISSERTATION, UNIV. MICH., ANN ARBOR. 107P.

ANNO DESCRIBES BIOLOGY, HABITAT, MOVEMENTS, AND FOOD OF THE PINE MARTEN. PRIMARY FOOD ITEMS WERE FLYING SQUIRREL, RED SQUIRREL, SNOWSHOE HARE, RED-BACKED VOLE, BIG GAME CARCASSES, SHREWS, AND BERRIES. FIR AND SPRUCE FIR HABITAT WERE USED THE MOST, BUT CONCLUDES THAT FOOD SUPPLY MAY BE MORE IMPORTANT THAN COVER TYPE. LOGGING ON SMALL SCALE WAS NOT DETRIMENTAL. SINCE FIRE CONTROL WAS GOOD, CATESTROPHIC FIRE WAS NOT EXPECTED TO ELIMINATE HABIT. MAKES MANAGEMENT SUGGESTIONS ESPECIALLY PERTAINING TO TRAPPING.

KEYS MARTEN, SMALL MAMMALS, PREDATORS, IDAHO, SPRUCE-FIR, HABITAT, FOOD HABITS, 2

149 AUTH MARSHALL W. H.

DATE 1946.

TITL WINTER FOOD HABITS OF THE PINE MARTEN IN MONTANA.

PUBL J. MAMMAL. 27:83-84.

ANNO RED SQUIRRELS, RED-BACKED VOLES AND SNOWSHOE HARE WERE MOST IMPORTANT FOOD ITEMS FOR MARTEN IN MONTANA.

KEYS PREDATORS, MARTEN, FOOD HABITS, MONTANA, RED SQUIRREL, RED-BACKED VOLES, SNOWSHOE HARE, SMALL MAMMALS, 2

150 AUTH MARSHALL W. H.

DATE 1951.

TITL PINE MARTEN AS A FOREST PRODUCT.

PUBL J. FOR. 49(2):899-905.

ANNO DISCUSSES MARTEN ECOLOGY- FOOD, HABITAT, REPRODUCTION. MAKES SUGGESTIONS FOR MANAGING MARTEN AS A FOREST PRODUCT FOR TRAPPERS. MENTIONS EFFECTS OF LOGGING AND FIRE SUPPRESSION ON MARTEN.

KEYS MARTEN, PREDATORS, IDAHO, MONTANA, HABITAT, FOOD HABITS, SMALL MAMMALS, BIRDS, POPULATION DENSITY, FIRE SUPPRESSION, 2, LOGGING

151 AUTH MARSTON R. B., JULANDER O.

DATE 1961.

TITL PLANT COVER REDUCTIONS BY POCKET GOPHERS FOLLOWING EXPERIMENTAL REMOVAL OF ASPEN FROM A WATERSHED AREA IN UTAH.

PUBL J. FOR. 59(2):100-102.

ANNO POCKET GOPHERS REDUCED PLANT COVER ON EXPERIMENTAL PLOT WHERE ASPEN HAD BEEN REMOVED TO THE EXTENT THAT THERE WAS CONCERN ABOUT POTENTIAL EROSION.

KEYS SMALL MAMMALS, POCKET GOPHERS, LOGGING, ASPEN, UTAH, FOOD HABITS, POPULATION DENSITY, 2

152 AUTH MARTELL A. M.

DATE 1978

TITL SELECTION OF CONIFER SEEDS BY DEER MICE AND RED-BACKED VOLES.

PUBL CAN. J. FOR. 9(2):201-204.

ANNO IN LABORATORY EXPERIMENTS, BOTH DEER MICE AND RED-BACKED VOLES STRONGLY PREFERRED THE SEEDS OF WHITE PINE OVER THOSE OF JACKPINE OR BLACK SPRUCE.

KEYS SMALL MAMMALS, DEER MOUSE, RED-BACKED VOLES, SEED, WHITE PINE, JACK PINE, BLACK SPRUCE, 3

153 AUTH MASER C., GASHWILER J. S.

DATE 1978.

TITL INTERRELATIONSHIPS OF WILDLIFE AND WESTERN JUNIPER.

PUBL IN PROCEEDINGS OF THE WESTERN JUNIPER ECOLOGY AND MANAGEMENT WORKSHOP. BEND, ORE. USDA FOR. SERV. GEN. TECH. REP. PNW-74, P. 37-82, 1978. PAC. NORTHWEST AND RANGE EXP. STN., PORTLAND, ORE.

ANNO DESCRIBES WILDLIFE HABITAT (NESTING, FEEDING AND COVER)
PROVIDED BY WESTERN JUNIPER, FOR 83 SPECIES OF BIRDS AND 23
SPECIES OF MAMMALS.

KEYS BIRDS, WESTERN JUNIPER, HABITAT, LARGE MAMMALS, SMALL MAMMALS, PREDATORS, 3

154 AUTH MASER C., TRAPPE J. M., NUSSBAUM R. A.

DATE 1978.

TITL FUNGAL-SMALL MAMMAL INTERRELATIONSHIPS WITH EMPHASIS ON OREGON CONIFEROUS FORESTS.

PUBL ECOLOGY 59(4):799-809.

ANNO ALTHOUGH SMALL MAMMALS MAY IMPEDE REFORESTATION THEY ARE ALSO IMPORTANT FOR REFORESTATION AS VECTORS FOR MYCORRHIZAL DISPERSAL.

KEYS SMALL MAMMALS, FOOD HABITS, MYCORRHIZAL FUNGI, OREGON

155 AUTH MASER C., TRAPPE J. M., URE D. C.

DATE 1978.

TITL IMPLICATIONS OF SMALL MAMMAL MYCOPHAGY TO THE MANAGEMENT OF WESTERN FORESTS.

PUBL TRANS. NORTH AM. WILDL. NAT. RESOUR. CONF. 43:78-88.

ANNO THERE IS A COMPLEX INTERRELATIONSHIP BETWEEN TREES, MYCORRHIZAL FUNGI, AND SMALL MAMMALS. IN MANAGING FORESTS ALL OF THESE INTERACTIONS NEED TO BE CONSIDERED.

KEYS SMALL MAMMALS, FOOD HABITS, MYCORRHIZAL FUNGI, CONIFEROUS FOREST

156 AUTH MCGEE J. M.

DATE IN PRESS.

TITL SMALL MAMMAL RESPONSES TO PRESCRIBED BURNING OF BIG SAGE BRUSH.

PUBL J. RANGE MANAGE.

KEYS SMALL MAMMALS, SAGEBRUSH, PRESCRIBED FIRE, WYOMING, SPRING BURN, FALL BURN, 2, GRAND TETON NATIONAL PARK, POSTFIRE SUCCESSION, MOSAIC, SPECIES COMPOSITION, MASKED SHREW, VAGRANT SHREW, LEAST CHIPMUNK, DEER MOUSE, MEADOW VOLE, MONTANA VOLE, WESTERN JUMPING MOUSE, LONG-TAILED WEASEL, PREDATORS

157 AUTH MCGEE J. M.

DATE 1976.

TITL SOME EFFECTS OF FIRE SUPPRESSION AND PRESCRIBED BURNING ON BIRDS AND SMALL MAMMALS IN SAGEBRUSH.

PUBL PH.D. DISSERTATION. UNIV. WYOMING, LARAMIE. 134P.

ANNO CHANGES IN BIRD DENSITY AND DIVERSITY AFTER BURNING SAGEBRUSH LASTED ONLY 2-3 YEARS. TOTAL SMALL MAMMAL NUMBERS WERE NOT DEPLETED BY FIRE, BUT EACH SPECIES RESPONDED DIFFERENTLY TO HABITAT CHANGES CAUSED BY THE BURNING.

KEYS SMALL MAMMALS, BIRDS, SAGEBRUSH, FIRE SUPPRESSION, PRESCRIBED FIRE, WYOMING, SPRING BURN, FALL BURN, POPULATION DENSITY, SPECIES DIVERSITY, GRAND TETON NATIONAL PARK, POSTFIRE SUCCESSION, MOSAIC, DEER MOUSE, 2

158 AUTH MCGREGOR R. C.

DATE 1958.

TITL SMALL MAMMAL STUDIES ON A SOUTHEAST ALASKA CUTOVER AREA.

PUBL USDA FOR. SERV. STN. PAP. NO. 8. 9P. ALASKA FOR. RES. CENTER, JUNEAU, ALASKA.

ANNO WHITE-FOOTED MOUSE POPULATIONS IN LOGGED AREAS AVERAGED 1.2-4
PER ACRE. THEY WERE MOST ABUNDANT ON THE VALLEY BOTTOM. SHREWS
WERE MOST NUMEROUS ON SIDEHILLS, AND VOLES IN GRASSY AREAS.

KEYS SMALL MAMMALS, ALASKA, LOGGING, POISONS, POPULATION DENSITY, 2, CLEARCUT, WHITE-FOOTED MOUSE, SHREWS, VOLES

159 AUTH MCKAY D. D., VERTS B. J.

DATE 1978.

TITL HABITAT PREFERENCE AND DISPERSAL OF NUTTALLS COTTONTAILS.

PUBL NORTHWEST SCI. 52(4):363-368.

ANNO DISCUSSES THE EFFECT OF SAMPLING BIAS ON THE ESTIMATION OF HABITAT PREFERENCE IN NUTTAILS COTTONTAILS.

KEYS SMALL MAMMALS, NUTTALL'S COTTONTAIL, OREGON, HABITAT, 3

160 AUTH MCKEEVER S.

DATE 1960.

TITL FOOD OF THE NORTHERN FLYING SQUIRREL IN NORTHEASTERN CALIFORNIA.

PUBL J. MAMMAL. 41:270-271.

ANNO DURING THE SUMMER, FUNGI WERE THE PRINCIPLE FOOD OF FLYING SQUIRRELS EXAMINED IN LASSEN COUNTY, CALIFORNIA. HAIR MOSS WAS THE PRINCIPLE FOOD DURING THE WINTER WHEN SNOW COVERED THE GROUND

KEYS SMALL MAMMALS, FLYING SQUIRRELS, FOOD HABITS, CALIFORNIA, FUNGI, 3

161 AUTH MECH D. L., ROGERS L. L.

DATE 1977.

TITL STATUS, DISTRIBUTION, AND MOVEMENTS OF MARTENS IN NORTHEASTERN MINNESOTA.

PUBL USDA FOR. SERV. RES. PAP. NC-143, 7P. NORTH CENT. FOR EXP. STN., ST. PAUL, MINN.

ANNO INFORMATION ON MARTEN DENSITY AND HABITAT. HOME RANGES OF 4 TELEMETERED MARTEN RANGED FROM 4.3 TO 19.9 KM2.

KEYS MARTEN, MOVEMENTS, POPULATION DENSITY, HABITAT, MINNESOTA, PREDATORS, 3

162 AUTH MEEHAN W.R.

DATE 1974.

TITL THE FOREST ECOSYSTEM OF SOUTHEAST ALASKA. 4. WILDLIFE HABITATS.

PUBL USDA FOR. SERV. GEN. TECH. REP. PNW-16. 32P. PACIFIC NORTHWEST FOREST AND RANGE EXP. STN., PORTLAND, ORE.

ANNO DISCUSSES THE IMPACTS OF MAN'S ACTIVITIES INCLUDING LOGGING, ON WILDLIFE HABITATS.

KEYS SMALL MAMMALS, PREDATORS, ALASKA, LOGGING, HABITAT, LARGE MAMMALS, 3

163 AUTH METZGAR L. H.

DATE 1967.

TITL AN EXPERIMENTAL COMPARISON OF SCREECH OWL PREDATION ON RESIDENT AND TRANSIENT WHITE-FOOTED MICE (PEROMYSCUS LEUCOPUS).

PUBL J. MAMMAL. 48(3):387-391.

ANNO TRANSIENT MICE WERE MORE SUSCEPTABLE TO PREDATION BY A SCREECH OWL THAN RESIDENT MICE.

KEYS SMALL MAMMALS, RAPTORS, OWLS, PREDATION, WHITE-FOOTED MOUSE, 2, BIRDS

164 AUTH MILLER R. G., RITCEY R. W., EDWARDS R. Y.

DATE 1955.

TITL LIVE TRAPPING MARTEN IN BRITISH COLUMBIA.

PUBL MURRELET 36(1):1-8.

ANNO LOGGING AND FIRE DESTROYS MARTEN HABITAT. MODERN CUTTING,
MAINTAINING FOREST STANDS OF DIFFERENT AGES, AND PRESERVING OLD
GROWTH MARTEN HABITAT, WILL PERPETUATE MARTEN HABITAT.

KEYS MARTEN, BRITISH COLUMBIA, LOGGING, FIRE, HABITAT, HOME RANGE, PREDATORS, 2

165 AUTH MOORE A. W.

DATE 1940.

TITL WILD ANIMAL DAMAGE TO SEED AND SEEDLINGS ON CUTOVER DOUGLAS FIR LANDS OF OREGON AND WASHINGTON.

PUBL U.S. DEP. AGRIC. TECH. BULL. NO. 706. 27P. WASHINGTON, D.C.

ANNO DESCRIBES THE IMPACTS OF WHITE-FOOTED MICE, SHREWS, OTHER MAMMALS, AND BIRDS, ON REFORESTATION.

KEYS SMALL MAMMALS, OREGON, WASHINGTON, DOUGLAS-FIR, SLASH FIRE, LOGGING, SEED, FOOD HABITS, WHITE-FOOTED MOUSE, SHREWS, BIRDS, 3

166 AUTH MOORE A. W.

DATE 1942.

TITL SHREWS AS A CHECK ON DOUGLAS-FIR REGENERATION.

PUBL J. MAMMAL. 23(1):37-41.

ANNO DISCOVERED SEED EATERS BY LIVETRAPPING WITH SEED FOR BAIT. OREGON COASTAL SHREWS EAT CONSIDERABLE QUANTITIES OF DOUGLAS-FIR SEED AND MAY BE THE REASON THERE ISN'T MORE DOUGLAS-FIR REGENERATION.

KEYS SMALL MAMMALS, SHREWS, SEED, FOOD HABITS, OREGON, DOUGLAS-FIR, SLASH FIRE, 3

167 AUTH MOORE A. W.

DATE 1943

TITL THE POCKET GOPHER IN RELATION TO YELLOW PINE REPRODUCTION.

PUBL J. MAMMAL. 24(2):271-272.

ANNO IN AREAS GRAZED BY CATTLE, DEER MICE TRAVELING IN POCKET GOPHER BURROWS APPARENTLY CONSUMED PONDEROSA PINE SEED. POCKET GOPHERS WERE NOT EATING THE SEED.

KEYS SMALL MAMMALS, POCKET GOPHERS, DEER MOUSE, GRAZING, OREGON, SEED, PONDEROSA PINE, 3, FOOD HABITS

168 AUTH MORE G.

DATE 1978.

TITL ECOLOGICAL ASPECTS OF FOOD SELECTION IN PINE MARTEN (MARTES AMERICANA).

PUBL M.S. THESIS. UNIV. ALBERTA, EDMONTON. 94P.

KEYS PREDATORS, MARTEN, FOOD HABITS, 2

169 AUTH MORRIS R. D.

DATE 1970.

TITL THE EFFECTS OF ENDRIN ON MICROTUS AND PEROMYSCUS. 1. UNENCLOSED FIELD POPULATIONS.

PUBL CAN. J. ZOOL. 48(4):695-708.

ANNO DEER MOUSE POPULATIONS WERE SIGNIFICANTLY REDUCED AFTER SPRAYING ENDRIN AND DID NOT RECOVER. VOLES DECLINED IMMEDIATELY

AFTER SPRAYING BUT IN 2 YEARS VOLE POPULATIONS EXCEEDED PRESPRAY LEVELS, AND EXCEEDED POPULATIONS ON CONTROL AREAS EACH YEAR OF THE STUDY.

KEYS SMALL MAMMALS, INSECTICIDE, POPULATION DENSITY, DEER MOUSE, MEADOW VOLE, 3

170 AUTH MORRIS R. F., CHESHIRE W. F., MILLER C. A., MOTT D. G.

DATE 1958.

TITL THE NUMERICAL RESPONSE OF AVIAN AND MAMMALIAN PREDATORS DURING A GRADATION OF THE SPRUCE BUDWORM.

PUBL ECOLOGY 39(3):487-494.

ANNO RODENT AND INSECTIVORE POPULATIONS FLUCTUATED INDEPENDANTLY OF BUDWORM DENSITY; HOWEVER, RED-BACKED VOLE AND DEER MOUSE POPULATION CYCLES HAD DEPRESSED PEAKS, POSSIBLY BECAUSE OF SEED SHORTAGE DURING BUDWORM OUTBREAK.

KEYS BIRDS, SMALL MAMMALS, SPRUCE BUDWORM, FOOD HABITS, POPULATION DENSITY, CONIFEROUS FOREST, CANADA, 2

171 AUTH MOTOBU D. A.

DATE 1978.

TITL EFFECTS OF CONTROLLED SLASH BURNING ON THE MOUNTAIN BEAVER (APLODONTIA RUFA RUFA).

PUBL NORTHWEST SCI. 52(2):92-99.

ANNO SLASH BURNING WAS CONSIDERED SUCCESSFUL FOR REDUCING MOUNTAIN BEAVER POPULATIONS. LOSSES WERE A RESULT OF ANIMALS BEING KILLED BY THE FIRE. SURVIVORS REMAINED WITHIN THEIR HOME RANGES. PREDATORS WERE ATTRACTED BY ROTTING CARCASSES.

KEYS SMALL MAMMALS, MOUNTAIN BEAVER, WASHINGTON, SLASH FIRE, MORTALITY, PREDATORS, COYOTE, RAPTORS, LONG-TAILED WEASEL, DOUGLAS-FIR, LOGGING, HOME RANGE, 2

172 AUTH MURIE A.

DATE 1940.

TITL ECOLOGY OF THE COYOTE IN YELLOWSTONE.

PUBL FAUNA OF THE NATIONAL PARKS OF THE U.S. FAUNA SERIES NO 4. U.S. GOVT. PRINTING OFFICE, WASHINGTON, D.C. 206P.

ANNO LIFE HISTORY OF THE COYOTE IN YELLOWSTONE NATIONAL PARK.

KEYS 1, PREDATORS, COYOTE, YELLOWSTONE NATIONAL PARK, WYOMING, MONTANA

173 AUTH MURIE A.

DATE 1961.

TITL SOME FOOD HABITS OF THE MARTEN.

PUBL J. MAMMAL. 42(4):516-521.

ANNO VOLES WERE PRESENT IN 251 OF 384 MARTEN SCATS. BERRIES WERE IMPORTANT FOOD ITEMS. RED SQUIRREL NESTS WERE USED BY MARTEN FOR A FEW DAYS AT A TIME ALTHOUGH THE SQUIRRELS WERE RARELY PREYED UPON.

KEYS MARTEN, FOOD HABITS, PREDATION, PREDATORS, SMALL MAMMALS, VOLES, RED SQUIRREL, GRAND TETON NATIONAL PARK, PIKA, 2, WYOMING

174 AUTH MURIE O. J.

DATE 1945.

TITL NOTES ON COYOTE FOOD HABITS IN MONTANA AND BRITISH COLUMBIA.

PUBL J. MAMMAL. 26(1):33-40.

ANNO NOTES OF FOOD HABITS FROM SCAT COLLECTIONS MADE FROM 1934-1935.
IN THESE SCATS SNOWSHOE HARE AND COTTONTAILS WERE THE MOST
ABUNDANT FOOD ITEM. CONCLUDES THAT COYOTES WILL SEEK AN

ABUNDANT AND EASY TO CAPTURE PREY SPECIES.

- KEYS COYOTE, PREDATORS, PREDATION, FOOD HABITS, MONTANA, BRITISH COLUMBIA, SMALL MAMMALS, SNOWSHOE HARE, BIRDS, LARGE MAMMALS, 2
- 175 AUTH NEGUS N. C., FINDLEY J.

DATE 1959.

TITL MAMMALS OF JACKSON HOLE, WYOMING.

PUBL J. MAMMAL. 40(3):371-381.

ANNO LISTING OF SPECIES FOUND IN JACKSON HOLE. HABITAT INFORMATION GIVEN ON SMALL MAMMALS.

KEYS SMALL MAMMALS, PREDATORS, LARGE MAMMALS, WYOMING, HABITAT, 3

176 AUTH NEWBY F. E., MCDOUGAL J. J.

DATE 1964.

TITL RANGE EXTENSION OF THE WOLVERINE IN MONTANA.

PUBL J. MAMMAL. 45(3):483-487.

ANNO WOLVERINE INCREASING IN MONTANA.

KEYS PREDATORS, WOLVERINE, MONTANA, POPULATION DENSITY, 3

177 AUTH ODUM E. P.

DATE 1944.

TITL WATER CONSUMPTION OF CERTAIN MICE IN RELATION TO HABITAT SELECTION.

PUBL J. MAMMAL. 25(4):404-405.

ANNO CAPTIVE RED-BACKED VOLES DRANK NEARLY THEIR WEIGHT IN WATER EACH DAY, ALMOST 10 TIMES AS MUCH WATER AS DEER MICE. IN THE WILD THEY CHOSE THE WETTEST HABITAT.

KEYS SMALL MAMMALS, HABITAT, RED-BACKED VOLES, DEER MOUSE, MOISTURE REQUIREMENTS, 2,

178 AUTH ODUM E. P., POMEROY S. E., DICKINSON J. C. III, HUTCHESON K.

DATE 1973.

TITL THE EFFECTS OF LATE WINTER LITTER BURN ON THE COMPOSITION, PRODUCTIVITY AND DIVERSITY OF A 4-YEAR OLD FALLOW-FIELD IN GEORGIA.

PUBL TALL TIMBERS FIRE ECOL. CONF. 13:399-419.

ANNO SIGMODON, MUS, PEROMYSCUS, AND REITHRODONTOMYS WERE INTRODUCED INTO FENCED, PARTIALLY BURNED PLOTS. SIGMODON INCREASED IN NUMBERS, MUS AND PEROMYSCUS POPULATIONS REMAINED LOW, AND REITHRODONTOMYS BECAME EXTINCT.

KEYS SMALL MAMMALS, COTTON RAT, EASTERN HARVEST MOUSE, OLDFIELD MOUSE, HOUSE MOUSE, PRESCRIBED FIRE, GEORGIA, POPULATION DENSITY, 3

179 AUTH OHMANN L. F., CUSHWA C. T., LAKE R. E., BEER J. R., BRANDER R.

DATE 1973.

TITL WILDERNESS ECOLOGY: THE UPLAND PLANT COMMUNITIES, WOODY BROWSE, PRODUCTION, AND SMALL MAMMALS OF TWO ADJACENT 33-YEAR-OLD WILDFIRE AREAS OF NORTHEASTERN MINNESOTA.

PUBL USDA FOR. SERV. GEN. TECH. REP. NC-7, 30P. NORTH CENT. FOR. EXP. STN., ST. PAUL, MINN.

ANNO AN ATTEMPT TO RELATE SMALL MAMMAL DISTRIBUTION TO VEGETATIVE COMMUNITY TYPES. INSUFFICIENT NUMBERS OF ANIMALS WERE TRAPPED TO TEST CORRELATIONS, BUT IT APPEARED THAT THE SMALL MAMMALS WERE UNIFORMLY DISTRIBUTED THROUGH THE VEGETATION TYPES TESTED.

KEYS SMALL MAMMALS, MINNESOTA, DEER MOUSE, RED-BACKED VOLES, HABITAT, JACK PINE, BIRCH, ASPEN, 3, WILDFIRE, POST-FIRE SUCCESSION

180 AUTH ORR-EWING A. L.

DATE 1950.

TITL LIFE HISTORY OF THE DEER MOUSE.

PUBL FOR. CHRON. 26(2):115-126.

ANNO CONTROL OF MICE NECESSARY FOR SUCCESSFUL RESEEDING OF DOUGLAS-FIR ON LOGGED AND BURNED LAND. SUGGESTS CORRELATING CONTROL METHODS WITH LIFE HISTORY AND SEASONAL CYCLES OF THE MICE.

KEYS SMALL MAMMALS, DEER MOUSE, LOGGING, PRESCRIBED FIRE, DOUGLAS-FIR, BRITISH COLUMBIA, POPULATION DENSITY, SEED, FOOD HABITS, SHREWS, 3

181 AUTH PANK L. F.

DATE 1974.

TITL A BIBLIOGRAPHY ON SEED-EATING MAMMALS AND BIRDS THAT AFFECT FOREST REGENERATION.

PUBL U.S. DEP. INTERIOR, FISH AND WILDL. SERV. SPEC. SCI. REP., WILDL. NO. 174. WASHINGTON, D.C. 28P.

ANNO BIBLIOGRAPHY ON SEED-EATING MAMMALS AND BIRDS THAT AFFECT FOREST VEGETATION.

KEYS SMALL MAMMALS, BIRDS, SEED, FOOD HABITS, BIBLIOGRAPHY, 3

182 AUTH PATRIC E. F., WEBB W. L., PATTON D. R., FFOLLIOTT P. F.

DATE 1953.

TITL A PRELIMINARY REPORT ON INTENSIVE BEAVER MANAGEMENT.

PUBL TRANS. NORTH AM. WILDL. CONF. 18:533-539.

ANNO REPORTS HIGH BEAVER POPULATIONS DUE TO EXTENSIVE CLEARCUTTING AND FIRES. SUGGESTS FOREST MANAGEMENT TO PRODUCE SUITABLE BEAVER HABITAT.

KEYS SMALL MAMMALS, BEAVER, NEW YORK, POPULATION DENSITY, WILDFIRE, CLEARCUT, POST-FIRE SUCCESSION, ASPEN, 2

183 AUTH PATTON D.R., FFOLLIOTT P.F.

DATE 1975.

TITL SELECTED BIBLIOGRAPHY OF WILDLIFE AND HABITATS FOR THE SOUTHWEST.

PUBL USDA FOR. SERV. GEN. TECH. REP. RM-16. 39P. ROCKY MT. FOR. AND RANGE EXP. STN., FT. COLLINS, COLO.

ANNO 390 REFERENCES ON RESEARCH AND MANAGEMENT OF IMPORTANT WILDLIFE AND HABITATS IN ARIZONA AND NEW MEXICO. DOES NOT INCLUDE AMPHIBIANS, REPTILES, BATS, OR SMALL RODENTS.

KEYS HABITAT, BIBLIOGRAPHY, ARIZONA, NEW MEXICO, SMALL MAMMALS, LARGE MAMMALS, PREDATORS, BIRDS, 3

184 AUTH PEARSON O. P.

DATE 1964.

TITL CARNIVORE-MOUSE PREDATION: AN EXAMPLE OF ITS INTENSITY AND BIOENERGETICS.

PUBL J. MAMMAL. 45(2):177-188.

ANNO PEAK MOUSE POPULATION EXCEEDED ITS FOOD SUPPLY. MORTALITY DUE TO CARNIVORES, OTHER SOURCES, AND EMIGRATION, REDUCED MOUSE POPULATIONS SO THAT 7% OF THE SEED CROP WAS NOT EATEN. EIGHTY-EIGHT PERCENT OF THE 4400 MICROTUS, 33% OF THE 1200 REITHRODONTOMYS, AND 7% OF THE 7000 MUS WERE EATEN BY CARNIVORES.

KEYS SMALL MAMMALS, PREDATORS, PREDATION, POPULATION DENSITY, CALIFORNIA, GRAY FOX, RACCOON, SKUNK, SEED, FOOD HABITS, VOLES, HARVEST MOUSE, HOUSE MOUSE, 2

185 AUTH PELIKAN J., VACKAR J.

DATE 1978.

TITL DENSITIES OF RED FOX, BADGER, AND PINE MARTEN POPULATIONS.

PUBL CONG. THERIOL. INT. 2:189.

KEYS PREDATORS, RED FOX, BADGER, MARTEN, POPULATION DENSITY, 2

186 AUTH PILLMORE R. E., FLICKINGER E. L., RICHMOND M. L.

DATE 1970.

TITL FOREST SPRAYING OF ZECTRAN AND ITS SAFETY TO WILDLIFE.

PUBL J. FOR. 69(10):721-727.

ANNO ZECTRAN SPRAYED TO CONTROL SPRUCE BUDWORMS WAS NOT CONSIDERED HARMFUL TO WILDLIFE. DOCUMENTS THE CONSUMPTION OF SPRUCE BUDWORM LARVAE BY RED SQUIRREL, AND GOLDEN-MANTLED GROUND SQUIRREL, CHIPMUNKS, AND DEER MOUSE.

KEYS SMALL MAMMALS, BIRDS, INSECTICIDE, FOOD HABITS, SPRUCE BUDWORM, 3, RED SQUIRREL, GOLDEN-MANTLED GROUND SQUIRREL, CHIPMUNKS, DEER MOUSE

187 AUTH OUICK H. F.

DATE 1953.

TITL WOLVERINE, FISHER, AND MARTEN STUDIES IN A WILDERNESS REGION.

PUBL TRANS. NORTH AM. WILDL. CONF. 18:513-532.

ANNO PRESENTS INFORMATION ON RANGE, FOOD HABITS AND BEHAVIOR GATHERED FROM RUNNING TRAPLINES FOR THESE SPECIES.

KEYS PREDATORS, MARTEN, FISHER, WOLVERINE, TRAPPING, VOLES, SMALL MAMMALS, BRITISH COLUMBIA, 2

188 AUTH QUICK H. F.

DATE 1954.

TITL SMALL MAMMAL POPULATIONS IN NORTHERN BRITISH COLUMBIA.

PUBL CAN. FIELD-NAT. 68(3):95-102.

ANNO SMALL MAMMAL POPULATIONS STUDIED BECAUSE OF THEIR IMPORTANCE AS FOOD ITEMS FOR FUR-BEARERS. DESCRIPTION OF POPULATION CYCLES.

KEYS SMALL MAMMALS, PREDATORS, FISHER, MARTEN, BRITISH COLUMBIA, POPULATION DENSITY, 2

189 AUTH QUICK H. F.

DATE 1955.

TITL FOOD HABITS OF MARTEN (MARTES AMERICANA) IN NORTHERN BRITISH COLUMBIA.

PUBL CAN. FIELD-NAT. 69(4):144-147.

ANNO THE MARTEN FOOD BASE CONSISTS OF RED-BACKED VOLES, DEER MICE, RED SQUIRRELS, AND SNOWSHOE HARE. THESE ANIMALS VARY IN ABUNDANCE BUT LOW LEVELS DID NOT SEEM TO LIMIT MARTEN. THE PROPORTION OF MARTEN SPECIMENS CONTAINING VOLE REMAINS WAS THE SAME DURING LOW VOLE POPULATIONS AS DURING HIGH VOLE POPULATIONS.

KEYS MARTEN, FOOD HABITS, BRITISH COLUMBIA, PREDATORS, PREDATION, RED-BACKED VOLES, DEER MOUSE, RED SQUIRREL, SNOWSHOE HARE, 2

190 AUTH REAM C. H., GRUELL G. E.

DATE 1980

TITL INFLUENCES OF HARVESTING AND RESIDUE TREATMENTS ON SMALL MAMMALS AND IMPLICATIONS FOR FOREST MANAGEMENT.

PUBL IN ENVIRONMENTAL CONSEQUENCES OF TIMBER HARVESTING IN ROCKY MOUNTAIN CONIFEROUS FORESTS. SEP. 11-13, 1979, MISSOULA, MT. GEN. TECH. REP. INT-90.

ANNO REVIEW OF THE EFFECTS OF LOGGING AND RESIDUE TREATMENTS ON SMALL MAMMALS. NUMBERS AND SPECIES COMPOSITION ARE RELATED TO

HABITATS WHICH RESULT FROM HARVESTING METHODS. DISCUSSION OF BENEFICIAL AND DETRIMENTAL ASPECTS OF SMALL MAMMALS IN FOREST COMMUNITIES.

KEYS SMALL MAMMALS, SPECIES COMPOSITION, POPULATION DENSITY, DEER MOUSE, RED-BACKED VOLES, COLUMBIAN GROUND SQUIRREL, SHREWS, SNOWSHOE HARE, PORCUPINE, FLYING SQUIRRELS, RED SQUIRREL, PRESCRIBED FIRE, BROADCAST FIRE, CLEARCUT, SELECTIVE CUT, HERBICIDE, INSECTICIDE, POST-FIRE SUCCESSION, BROADCAST FIRE, MOSAIC, POISONS, DAMAGE, SEED, FUNGI, INSECTS, RESIDUE TREATMENTS, 1

191 AUTH RESLER R. A.

DATE 1972.

TITL CLEARCUTTING: BENEFICIAL ASPECTS FOR WILDLIFE RESOURCES.

PUBL J. SOIL WATER CONSERV. 27(6):251-254.

ANNO POINTS OUT POTENTIAL BENEFITS OF CLEARCUTTING TO WILDLIFE IF APPROPRIATE PLANNING PRECEEDS HARVESTING.

KEYS SMALL MAMMALS, LARGE MAMMALS, BIRDS, CLEARCUT, LITERATURE REVIEW, 2

192 AUTH RICKARD W. H.

DATE 1960.

TITL THE DISTRIBUTION OF SMALL MAMMALS IN RELATION TO THE CLIMAX VEGETATION MOSAIC IN EASTERN WASHINGTON AND NORTHERN IDAHO.

PUBL ECOLOGY 41(1):99-106.

ANNO 14 TYPES OF CLIMAX PLANT ASSOCIATIONS SAMPLED FOR SMALL MAMMALS. DISTRIBUTION OF 11 SMALL MAMMAL SPECIES IN DIFFERENT COMMUNITIES DISCUSSED. CHIPMUNKS WERE TRAPPED IN EVERY FOREST STAND. RED-BACKED VOLES WERE TRAPPED IN ALL BUT THE MOST XERIC CONIFEROUS STANDS. SHREWS WERE NOT AS STRONGLY LINKED TO PLANT ASSOCIATIONS AS HERBIVOROUS SMALL MAMMALS.

KEYS SMALL MAMMALS, IDAHO, WASHINGTON, SPECIES COMPOSITION, HABITAT, YELLOW-PINE CHIPMUNK, RED-BACKED VOLES, MASKED SHREW, DUSKY SHREW, DEER MOUSE, 2

193 AUTH ROPPE J. A., HEIN D.

DATE 1978.

TITL EFFECTS OF FIRE IN A LODGEPOLE PINE FOREST.

PUBL SOUTHWEST NAT. 23(2):279-288.

ANNO SPECIES DIVERSITY FOR SMALL MAMMALS AND BIRDS WAS GREATER ON AN 8 YEAR OLD BURN THAN THE ADJACENT UNBURNED LODGEPOLE. POPULATION DENSITIES AND TOTAL BIOMASS WERE SIMILIAR FOR BOTH HABITATS.

KEYS SMALL MAMMALS, LARGE MAMMALS, BIRDS, LODGEPOLE PINE, COLORADO, WILDFIRE, SPECIES COMPOSITION, POPULATION DENSITY, SUMMER BURN, POST-FIRE SUCCESSION, 1

194 AUTH ROSENZEIG M. L.

DATE 1973.

TITL HABITAT SELECTION BY RODENTS.

PUBL ECOLOGY 54(1):110-117.

ANNO KANGAROO RATS AND POCKET MICE COEXIST, EXPLOITING DIFFERENT VEGETATION STRUCTURES WITHIN THE HABITAT.

KEYS SMALL MAMMALS, RODENTS, HABITAT, KANGAROO RATS, POCKET MOUSE, ARIZONA, VEGETATION STRUCTURE, MESQUITE, 2

195 AUTH ROWE J. S., SCOTTER G. W.

DATE 1973.

TITL FIRE IN THE BOREAL FOREST.

PUBL QUARTERNARY RES. 3:444-464.

ANNO FAUNAL SUCCESSION FOLLOWS PLANT SUCCESSION. FIRE IS IMPORTANT FOR MAINTAINING SOIL CHEMICAL PROPERTIES, VEGETATIONAL COMPOSITION, AND ANIMAL POPULATIONS, THROUGH THE MOSAIC OF HABITATS CREATED.

KEYS FIRE, POST-FIRE SUCCESSION, MOSAIC, LARGE MAMMALS, SMALL MAMMALS, PREDATORS, SNOWSHOE HARE, MARTEN, RED SQUIRREL, BEAVER, 2, WILDFIRE

196 AUTH SAIGO B. W.

DATE 1969.

TITL THE RELATIONSHIP OF NON-RECOVERED RODENT CACHES TO NATURAL REGENERATION OF PONDEROSA PINE.

PUBL M.S. THESIS, OREGON STATE UNIV., CORVALLIS. 98P.

ANNO SMALL MAMMAL SEED CACHES THOUGHT TO BE RESPONSIBLE FOR ONE-HALF OF PONDEROSA PINE REGENERATION. THIS IS MOST IMPORTANT IN AREAS DISTURBED BY ROAD CLEARING, LOGGING AND FIRE. GERMINATING SEED CLUMPS PROVIDE FOOD FOR OREGON JUNCOS AND OTHER ANIMALS. LITERATURE REVIEW ON BENEFICIAL EFFECTS OF SMALL MAMMALS ON REFORESTATION.

KEYS SMALL MAMMALS, FOOD HABITS, PONDEROSA PINE, BIRDS, GOLDEN-MANTLED GROUND SQUIRREL, YELLOW-PINE CHIPMUNK, DEER MOUSE, OREGON JUNCO, LOGGING, WILDFIRE, OREGON, LITERATURE REVIEW, 2

197 AUTH SAMPSON A. W.

DATE 1944.

TITL PLANT SUCCESSION ON BURNED CHAPARRAL LANDS IN NORTHERN CALIFORNIA.

PUBL CALIF. AGRIC. EXP. STN. BULL. 685.

ANNO FIRE KILLS MANY SMALL MAMMALS ESPECIALLY THOSE THAT LIVE IN TREES OR BRUSH. REDUCTION OF SURFACE DWELLING SMALL MAMMALS IS TEMPORARY AND THE INCREASED FOOD SUPPLY AFTER FIRE CAUSES AN INCREASE IN THEIR NUMBERS. MOST PREDATORS ARE MOBILE ENOUGH TO ESCAPE MOST FIRES.

KEYS SMALL MAMMALS, PREDATORS, LARGE MAMMALS, BIRDS, FIRE, FOOD HABITS, POPULATION DENSITY, MORTALITY, 2, CHAPARRAL, CALIFORNIA

198 AUTH SCHEFFER T. H.

DATE 1945.

TITL BURROW ASSOCIATIONS OF SMALL MAMMALS.

PUBL MURRELET 26(2)24-26.

ANNO NOTES ON KINDS OF SMALL MAMMALS TRAPPED IN MOLE BURROWS.

KEYS SMALL MAMMALS, PREDATORS, PACIFIC NORTHWEST, HABITAT, REPTILES, WEASEL, MOLES, MICE, POCKET GOPHERS, BULL SNAKE, 3

199 AUTH SCOTTER G. W.

DATE 1964.

TITL EFFECTS OF FOREST FIRES ON THE WINTER RANGE OF BARREN-GROUND CARIBOU IN NORTHERN SASKATCHEWAN.

PUBL WILDL. MANAGE. BULL. SERIES 1(18). CAN. WILDLIFE SERV., OTTAWA.

ANNO SNOWSHOE HARE AND BEAVER BENEFITTED FROM POST-FIRE SUCCESSION.
RED SQUIRRELS WERE ONLY FOUND IN STANDS OLDER THAN 50 YEARS.
FIRE DESTROYED MARTEN HABITAT.

KEYS SMALL MAMMALS, BIRDS, LARGE MAMMALS, POST-FIRE SUCCESSION, MARTEN, PREDATORS, RED SQUIRREL, SNOWSHOE HARE, SASKATCHEWAN,

BLACK SPRUCE, BEAVER, FIRE, 2

200 AUTH SETON E. T.

DATE 1929.

TITL LIVES OF GAME ANIMALS.

PUBL VOL. II, PART 2. DOUBLEDAY, DORAN AND CO., INC. NEW YORK. 746P.

ANNO FIRE CAUSES THE DISAPPEARANCE OF MARTEN.

KEYS MARTEN, FIRE, PREDATORS

201 AUTH SHORT H. L., MCCULLOCH C. Y.

DATE 1977.

TITL MANAGING PINYON-JUNIPER RANGES FOR WILDLIFE.

PUBL USDA FOR. SERV. GEN. TECH. REP. RM-47, 10P. ROCKY MT. FOR. AND RANGE EXP. STN. FORT COLLINS, COLO.

ANNO DESCRIBES PINYON-JUNIPER HABITATS AND WILDLIFE. DISCUSSES MANAGEMENT PROCEDURES TO BENEFIT WILDLIFE.

KEYS SMALL MAMMALS, LARGE MAMMALS, BIRDS, REPTILES, PINYON-JUNIPER, FOOD HABITS, SOUTHWEST, HABITAT MANAGEMENT, PREDATORS, GRAZING, HERBICIDE, PRESCRIBED FIRE, 3

202 AUTH SIMS H. P., BUCKNER C. H.

DATE 1973.

TITL THE EFFECTS OF CLEARCUTTING AND BURNING OF PINUS BANKSIANA FORESTS ON THE POPULATIONS OF SMALL MAMMALS IN SOUTHEASTERN MANITOBA.

PUBL AMER. MIDL. NAT. 90(1):228-231.

ANNO THE TOTAL POPULATION OF SMALL MAMMALS WAS REDUCED AFTER BURNING, BUT FOLLOWED BY A RAPID REESTABLISHMENT OF A LARGE POPULATION OF DEER MICE WHICH WERE CONSIDERED A HAZARD TO DIRECT SEEDING ON JACK PINE SITES IN MANITOBA.

KEYS SMALL MAMMALS, JACK PINE, MANITOBA, FOOD HABITS, DEER MOUSE, CLEARCUT, SLASH FIRE, 2

203 AUTH SOUTIERE E. C.

DATE 1978.

TITL THE EFFECTS OF TIMBER HARVESTING ON THE MARTEN.

PUBL PH.D. DISSERTATION. UNIV. OF MAINE, ORONO. 87P.

KEYS PREDATORS, MARTEN, LOGGING, MAINE, 2

204 AUTH SOUTIERE E. C.

DATE 1979.

TITL EFFECTS OF TIMBER HARVESTING ON MARTEN IN MAINE.

PUBL J. WILDL. MANAGE. 43(4):850-860.

ANNO SELECTIVE TIMBER HARVESTING IS COMPATIBLE WITH THE PRESERVATION OF MARTEN HABITAT. TIMBER HARVESTING DOES NOT LIMIT MARTEN FOOD. CLEARCUTS ARE POOR MARTEN HABITAT FOR THE FIRST FIFTEEN YEARS.

KEYS PREDATORS, MARTEN, MAINE, MEADOW VOLE, SMALL MAMMALS,
PREDATION, CLEARCUT, SELECTIVE CUT, BIRDS, MIXED
CONIFER-HARDWOOD, RED-BACKED VOLES, HABITAT, 1, SPRUCE-FIR

205 AUTH SPENCER D. A.

DATE 1955.

TITL THE EFFECTS OF RODENTS ON REFORESTATION.

PUBL PROC. SOC. AM. FORESTERS MEETING, 1955:125-128.

ANNO THIRTEEN ACRE SLASH BURN CONTAINED 50% FEWER SMALL MAMMALS THAN ADJACENT UNBURNED AREA DURING 6 DAYS IMMEDIATELY AFTER THE FIRE. THERE IS A PROGRESSIVE SHIFT IN THE TYPES OF RODENT DAMAGE AT DIFFERENT STAGES OF SUCCESSION.

KEYS SMALL MAMMALS, SLASH FIRE, POPULATION DENSITY, LOGGING, PACIFIC NORTHWEST, 3, SLASH FIRE

206 AUTH STICKEL L. F.

DATE 1946.

TITL THE SOURCE OF ANIMALS MOVING INTO A DEPOPULATED AREA.

PUBL J. MAMMAL. 27(4):301-307.

ANNO STUDIED THE INVASION OF WHITE-FOOTED MICE FROM ESTABLISHED HOME RANGES TO A CENTRAL AREA WHERE MICE WERE BEING REMOVED BY SNAPTRAPPING.

KEYS SMALL MAMMALS, WHITE-FOOTED MOUSE, MIGRATION, MARYLAND, 2

207 AUTH STODDARD H. L.

DATE 1961.

TITL THE USE OF FIRE ON SOUTHEASTERN GAME LANDS.

PUBL IN THE COOPERATIVE QUAIL STUDY ASSOC. MAY 1, 1931 - MAY 1, 1943. P. 47-63. H. L. STODDARD, H. L. BEADEL AND E. V. KOMAREK. MISC. PUBL. NO. 1. TALL TIMBERS PLANTATION.

ANNO FIRE FOR QUAIL MANAGEMENT ALSO DESTROYS COVER NECESSARY FOR COTTON RATS. POISONING AND TRAPPING RATS IS NOT NECESSARY WHEN FIRE IS USED:

KEYS COTTON RAT, FIRE, POPULATION DENSITY, SOUTHEAST, 3, BIRDS, QUAIL, SMALL MAMMALS

208 AUTH STOUT J., FARRIS A. L., WRIGHT V. L.

DATE 1971.

TITL SMALL MAMMAL POPULATIONS OF AN AREA IN NORTHERN IDAHO SEVERELY BURNED IN 1967.

PUBL NORTHWEST SCI. 45(4):219-226.

ANNO AUTHORS DID NOT DOCUMENT UNUSUAL DENSITIES OF SMALL MAMMALS ON BURN. RODENTS ON BURN WERE EATING SHRUB BARK.

KEYS SMALL MAMMALS, DEER MOUSE, VOLES, POPULATION DENSITY, IDAHO, FOOD HABITS, POST-FIRE SUCCESSION, WILDFIRE, 2

209 AUTH SULLIVAN T. P.

DATE 1979.

TITL REPOPULATION OF CLEAR-CUT HABITAT AND CONIFER SEED PREDATION BY DEER MICE.

PUBL J. WILDL. MANAGE. 43(4):861-871.

ANNO MICE CONTINUE TO INVADE RECENT CUT-OVER AREAS AND CONSUME SEED REGARDLESS OF CONTROL METHODS. SUGGESTS USE OF ALTERNATIVE FOODS TO REDUCE CONIFER SEED CONSUMPTION.

KEYS SMALL MAMMALS, CLEARCUT, DEER MOUSE, BRITISH COLUMBIA, DOUGLAS-FIR, SEED, POISONS, MIGRATION, 1

210 AUTH SUNQUIST M. E.

DATE 1967.

TITL EFFECTS OF FIRE ON RACCOON BEHAVIOR.

PUBL J. MAMMAL. 48(4):673-674.

ANNO MOVEMENTS OF A FAMILY OF RADIO-COLLARED RACCOONS WERE FOLLOWED 4 DAYS BEFORE AND 4 DAYS AFTER A FIRE WITHIN THEIR HOME RANGE. THE FIRE DID NOT SIGNIFICANTLY AFFECT THE AMOUNT OF TIME THE ANIMALS SPENT IN THE AREA BURNED.

KEYS SMALL MAMMALS, RACCOON, PRESCRIBED FIRE, SAVANNA, MINNESOTA, 2

211 AUTH TERRILL H. V., MARSHALL W. H.

DATE 1946.

TITL USING DEN BOXES TO BOOST SQUIRREL CROP.

PUBL MISSOURI CONSERV. 7:4-5.

ANNO SQUIRRELS DID NOT OCCUPY BURNED AREAS BECAUSE OF LACK OF NEST SITES.

KEYS SMALL MAMMALS, SQUIRRELS, FIRE, HABITAT, 2

212 AUTH TESTER J. R.

DATE 1965.

TITL EFFECTS OF A CONTROLLED BURN ON SMALL MAMMALS IN A MINNESOTA OAK SAVANNA.

PUBL AM. MIDL. NAT. 74(1):240-243.

ANNO AN OAK SAVANNA WAS RETRAPPED 35 DAYS AFTER A FAST HOT CONTROLLED BURN. THE NUMBER OF DEER MICE INCREASED FROM 4 TO 49 AND THE NUMBER OF RED-BACKED VOLES FROM 9 TO 13. SUGGESTS VOLES NOT AS AFFECTED BY HABITAT CHANGES CAUSED BY FIRE IN A SAVANNA, AS IN CONIFER SLASH.

KEYS SMALL MAMMALS, DEER MOUSE, RED-BACKED VOLES, OAK-SAVANNA, MORTALITY, POPULATION DENSITY, MINNESOTA, PRESCRIBED FIRE, 2

213 AUTH TESTER J. R., MARSHALL W. H.

DATE 1962.

TITL MINNESOTA PRAIRIE MANAGEMENT TECHNIQUES AND THEIR WILDLIFE IMPLICATIONS.

PUBL TRANS. NORTH AM. WILDL. NAT. RESOUR. CONF. 27:267-287.

ANNO MEADOW VOLE INCREASED WITH INCREASING LITTER AFTER FIRE, WHILE DEER MICE DECREASED.

KEYS SMALL MAMMALS, GRASSLAND, MINNESOTA, WILDFIRE, MEADOW VOLE, DEER MOUSE, POPULATION DENSITY, SPRING BURN, FALL BURN, GRAZING, MOWING, BIRDS, 2

214 AUTH TEVIS L. JR.

DATE 1953.

TITL STOMACH CONTENTS OF CHIPMUNKS AND MANTLED SQUIRRELS IN NORTHEASTERN CALIFORNIA.

PUBL J. MAMMAL. 34:316-324.

ANNO HYPOGEOUS FUNGI ARE THE MOST IMPORTANT FOOD OF CHIPMUNKS AND MANTLED SQUIRRELS IN THE COMMERCIAL TIMBER BELT OF NORTHEASTERN CALIFORNIA. SEEDS, LEAVES, FLOWERS, FRUITS, ROOTS, ARTHROPODS, AND MEAT WERE ALSO EATEN. CONCLUDES SMALL MAMMALS THAT ARE HARMFUL AT ONE TIME AND PLACE MAY BE BENEFICIAL AT ANOTHER TIME OR PLACE.

KEYS SMALL MAMMALS, CHIPMUNKS, GOLDEN-MANTLED GROUND SQUIRREL, FOOD HABITS, CALIFORNIA, 2, DOUGLAS-FIR

215 AUTH TEVIS L. JR.

DATE 1956.

TITL EFFECT OF A SLASH BURN ON FOREST MICE.

PUBL J. WILDL. MANAGE. 20(4):405-409.

ANNO EXPERIMENT TO SEE IF SLASH FIRE COULD BE USED TO CONTROL SEED EATING MICE. MOST MICE IN SLASH WERE KILLED BY THE FIRE. AS SOON AS THE ASH SURFACE WAS HARDENED BY RAIN THERE WAS A REINVASION OF MORE MICE THAN ORIGINALLY INHABITED THE SLASH.

KEYS SMALL MAMMALS, WHITE-FOOTED MOUSE, CHIPMUNKS, WOODRATS, SHREWS, MORTALITY, MIGRATION, SOIL SURFACE, DOUGLAS-FIR, CALIFORNIA, POPULATION DENSITY, CLEARCUT, SLASH FIRE, 1

216 AUTH TEVIS L. JR.

DATE 1956.

TITL INVASION OF A LOGGED AREA BY GOLDEN-MANTLED SQUIRRELS.

PUBL J. MAMMAL. 37(2):291-292.

ANNO GOLDEN-MANTLED SQUIRRELS MIGRATED FROM AN ISOLATED RIDGE WHERE A POPULATION WAS ESTABLISHED, THROUGH VIRGIN DOUGLAS-FIR TO ESTABLISH POPULATIONS IN NEWLY LOGGED AREAS. SQUIRRELS' SEED EATING HABITS REPRESENTED A THREAT TO REFORESTATION. POPULATION INCREASED IN SPITE OF POISONING.

KEYS SMALL MAMMALS, GOLDEN-MANTLED GROUND SQUIRREL, LOGGING, DOUGLAS-FIR, CALIFORNIA, WHITE FIR, FOOD HABITS, SEED, MIGRATION, 1

217 AUTH TEVIS L. JR.

DATE 1956.

TITL POCKET GOPHERS AND SEEDLINGS OF RED FIR.

PUBL ECOLOGY 37(2):379-381.

ANNO IDAHO FESCUE HAD PREVENTED SPREAD OF CONIFERS. OVERGRAZING CAUSED DISTRUCTION OF TURF AND MULTIPLICATION OF BULBOUS PLANTS. POCKET GOPHERS RESPONDED BY INCREASING. GROUND CHURNED BY POCKET GOPHERS PRODUCED AN IDEAL SEED BED FOR CONIFERS. IN 1951 A BUMPER CROP OF RED FIR CONES PRODUCED MANY SEEDLINGS. THERE WAS ABUNDANT SURVIVAL OF SEEDLINGS ON BARE GROUND AWAY FROM RODENTS.

KEYS SMALL MAMMALS, POCKET GOPHERS, GRAZING, FOOD HABITS, SEED, RED FIR, IDAHO FESCUE, CALIFORNIA, PREDATORS, COYOTE, 2

218 AUTH TEVIS L. JR.

DATE 1956.

TITL RESPONSES OF SMALL MAMMAL POPULATIONS TO LOGGING DOUGLAS-FIR.

PUBL J. MAMMAL. 37(2)189-196.

ANNO LOGGING CAUSES AN INCREASE IN THE NUMBERS OF TOWNSEND CHIPMUNKS, DUSKY-FOOTED WOOD RATS, WHITE-FOOTED AND BIG-EARED MICE, DIGGER SQUIRRELS, CHICKAREES, GRAY SQUIRRELS, AND BUSH RABBITS. TROWBRIDGE SHREWS, RED-BACKED MICE, FLYING SQUIRRELS AND SHREW-MOLES DECREASE. WHITE-FOOTED MICE AND TOWNSEND'S CHIPMUNKS BECOME MOST NUMEROUS AND ARE RESPONSIBLE FOR MOST OF THE SEED DESTRUCTION.

KEYS SMALL MAMMALS, MORTALITY, DOUGLAS-FIR, LOGGING, SLASH FIRE, FOOD HABITS, SEED, CALIFORNIA, MIGRATION, TOWNSEND'S CHIPMUNK, WHITE-FOOTED MOUSE, PINON MOUSE, CALIFORNIA GROUND SQUIRREL, DUSKY-FOOTED WOOD RAT, GRAY SQUIRREL, FLYING SQUIRRELS, DOUGLAS' SQUIRREL, BRUSH RABBIT, TROWBRIDGE SHREW, RED-BACKED VOLES, SHREW-MOLE, 2, POPULATION DENSITY

219 AUTH TRAPPE J. M., MASER C.

DATE 1977.

TITL ECTOMYCORRHIZAL FUNGI: INTERACTIONS OF MUSHROOM AND TRUFFLES WITH BEASTS AND TREES.

PUBL IN MUSHROOMS AND MAN--AN INTERDISCIPLINARY APPROACH TO MYCOLOGY. P. 163-180. A. B. WALTERS, ED. LINN-BENTON COMMUNITY COLLEGE, ALBANY, ORE.

ANNO SMALL MAMMALS, FORESTS, AND MYCORRHIZAL FUNGI HAVE EVOLVED TOGETHER AND ARE MUTUALLY DEPENDANT. SMALL MAMMALS ARE THE PRIMARY DISPERSAL AGENT FOR HYPOGEOUS FUNGI.

KEYS SMALL MAMMALS, FOOD HABITS, MYCORRHIZAL FUNGI, 2

220 AUTH TRUETT J. C.

DATE 1979.

TITL OBSERVATIONS OF COYOTE PREDATION ON MULE DEER FAWNS IN ARIZONA.

PUBL J. WILDL. MANAGE. 43(4):956-958.

ANNO DESCRIPTIONS OF COYOTE ATTACKS ON MULE DEER FAWNS AND DEFENSE OF FAWNS BY DOES.

KEYS PREDATORS, COYOTE, MULE DEER, ARIZONA, PREDATION, 2

221 AUTH TRYON C. A. JR.

DATE 1947.

TITL THE BIOLOGY OF THE POCKET GOPHER (THOMOMYS TALPOIDES) IN MONTANA.

PUBL MONT. STATE COLL. AGRIC. EXP. STN. BULL. 448. 33P.

ANNO LIFE HISTORY AND IMPORTANCE OF THE POCKET GOPHER AS A BURROWING ANIMAL IN WESTERN MOUNTAINS.

KEYS SMALL MAMMALS, POCKET GOPHERS, MONTANA, HABITAT, FOOD HABITS, 3

222 AUTH TURNER G. T., HANSEN R. M., REID V. H., TIETJEN H. P., WARD A. L.

DATE 1977.

TITL POCKET GOPHERS AND COLORADO RANGE LANDS.

PUBL BULLETIN 5545, COLO. STATE UNIV. EXP. STN., FT. COLLINS, COLO.

ANNO A COMPLETE LIFE HISTORY OF POCKET GOPHERS. INCLUDES SECTION ON CONTROL.

KEYS SMALL MAMMALS, POCKET GOPHERS, COLORADO, HABITAT, FOOD HABITS, POISONS, HERBICIDE, 2

223 AUTH USDA

DATE 1978.

TITL SPECIES LIST BIRDS, MAMMALS, FISH, REPTILES, AND AMPHIBIANS FOR THE FOREST SERVICE INCLUDING SEPARATE LISTS FOR IDAHO, MONTANA AND NORTH DAKOTA.

PUBL USDA FOR. SERV., NORTHERN REGION, MISSOULA, MONT., R1-78-002 82P.

ANNO SPECIES LISTS FOR EACH STATE IN THE NORTHERN REGION.

KEYS SMALL MAMMALS, LARGE MAMMALS, BIRDS, FISH, REPTILES, AMPHIBIANS, MONTANA, IDAHO, NORTH DAKOTA, 3

224 AUTH VIERECK L. A., DYRNESS C. T. (EDS.)

DATE 1979.

TITL ECOLOGICAL EFFECTS OF THE WICKERSHAM DOME FIRE NEAR FAIRBANKS, ALASKA.

PUBL USDA FOR. SERV. GEN. TECH. REP. PNW-90, 71P. PAC. NORTHWEST RANGE AND EXP. STN., PORTLAND, ORE.

ANNO RED-BACKED VOLES WERE REDUCED AFTER THE FIRE, AND DID NOT OVER WINTER IN THE BURN UNTIL 3 YEARS LATER. THE RELATIVELY RARE TUNDRA VOLE BECAME NUMEROUS ON THE BURNED AREA 3 YEARS AFTER THE FIRE. SNOWSHOE HARE POPULATIONS WERE HIGH (6 HARES PER HECTARE) AND CONSUMED LARGE QUANTITIES OF WILLOW SPROUTS AND CHARRED BARK DURING THE FALL AND WINTER AFTER THE FIRE.

KEYS SMALL MAMMALS, RED-BACKED VOLES, TUNDRA VOLE, SNOWSHOE HARE, WILDFIRE, ALASKA, POST-FIRE SUCCESSION, BLACK SPRUCE, 2, HABITAT

225 AUTH VOGL R. J.

DATE 1967.

TITL CONTROLLED BURNING FOR WILDLIFE IN WISCONSIN.

PUBL TALL TIMBERS FIRE ECOL. CONF. 6:47-96.

ANNO HISTORICAL ACCOUNT OF THE IMPORTANCE OF FIRE IN MAINTAINING GRASSLANDS IN WISCONSIN AND THE SIGNIFICANCE OF PRAIRIE AND SAVANNA HABITATS TO WILDLIFE.

KEYS BIRDS, MULE DEER, SMALL MAMMALS, DIRECT EFFECTS, POST-FIRE SUCCESSION, MORTALITY, HABITAT, WISCONSIN, PRESCRIBED FIRE, 2

226 AUTH VOGL R. J.

DATE 1973.

TITL EFFECTS OF FIRE ON THE PLANTS AND ANIMALS OF A FLORIDA WETLAND.

PUBL AM. MIDL. NAT. 89:334-347.

ANNO NO BIRD OR MAMMAL INJURY WAS OBSERVED DUE TO FIRE. SOME AMPHIBIANS AND REPTILES WERE KILLED. FOUR MONTHS AFTER THE FIRE MAMMAL POPULATIONS OF BURNED AND UNBURNED AREAS APPEARED SIMILAR.

KEYS BIRDS, REPTILES, MORTALITY, AMPHIBIANS, SMALL MAMMALS, FLORIDA, WETLAND, PRESCRIBED FIRE, 2

227 AUTH VOLLAND L. A.

DATE 1974.

TITL RELATION OF POCKET GOPHERS TO PLANT COMMUNITIES IN THE PINE REGION OF CENTRAL OREGON.

PUBL IN WILDLIFE AND FOREST MANAGEMENT IN THE PACIFIC NORTHWEST. P. 149-166. H. C. BLACK, ED. PROC. 1973 SYMP. ORE. STATE UNIV., CORVALLIS.

ANNO GOPHERS PREFER LODGEPOLE FORESTS WITH LUSH STANDS OF LONG-STOLEN SEDGE AND/OR FORBS. WHEN LOGGING OR BURNING OCCURS ADJACENT TO THESE COMMUNITIES, INVASION BY GOPHERS CAN BE EXPECTED.

KEYS SMALL MAMMALS, POCKET GOPHERS, OREGON, PONDEROSA PINE, LODGEPOLE PINE, HABITAT, 1

228 AUTH VREELAND H., LUGASKI T., VREELAND P.

DATE 1979.

TITL INTEGRATED ECOLOGY OF THE GREAT BASIN. PART III. A PRELIMINARY ANALYSIS OF NOWARK SUMMIT, EUREKA COUNTY, NEVADA.

PUBL NORTHWEST SCI. 53(3):180-189.

ANNO VEGETATIONAL COMMUNITY IS A GOOD INDICATOR OF ANIMAL SPECIES AND THEIR POPULATION SIZES. DESCRIBES HABITAT PREFERENCES OF DIFFERENT SMALL MAMMAL SPECIES.

KEYS SMALL MAMMALS, GREAT BASIN, SAGEBRUSH-GRASS, GRAZING, HABITAT, LEAST CHIPMUNK, DEER MOUSE, GREAT BASIN POCKET MOUSE, MONTANE VOLE, BUSHY-TAILED WOODRAT, 2

229 AUTH WANGERSKY P. J., CUNNINGHAM W. J.

DATE 1957.

TITL TIME LAG IN PREY-PREDATOR POPULATION MODELS.

PUBL ECOLOGY 38(1):136-139.

ANNO AFTER DEFINING THE PARAMETERS OF PREY AND PREDATOR POPULATIONS, POPULATION EQUATIONS ARE MOST EASILY HANDLED BY APPROXIMATION ON AN ANALOG COMPUTER.

KEYS PREDATION, 3

230 AUTH WECKWERTH R. P., HAWLEY V. D.

DATE 1962.

TITL MARTEN FOOD HABITS AND POPULATION FLUCTUATIONS IN MONTANA.

PUBL J. WILDL. MANAGE. 26(1):55-74.

ANNO FLUCTUATIONS IN PREY SPECIES NUMBERS AFFECTED THE NUMBER OF MARTEN IN THIS AREA. FOOD ITEMS WERE GENERALLY USED IN PROPORTION TO THEIR ABUNDANCE EXCEPT WHEN AFFECTED BY AVAILABILITY OR PREFERENCE BY MARTEN. MICROTUS AND CLETHRIONOMYS WERE PREFERRED MAMMALIAN FOODS.

KEYS MARTEN, FOOD HABITS, MONTANA, PREDATORS, POPULATION DENSITY, SMALL MAMMALS, 1

231 AUTH WEST S. D.

DATE 1974.

TITL POST-BURN POPULATION RESPONSE OF THE NORTHERN RED-BACKED VOLE, CLETHRIONOMYS RUTILUS IN INTERIOR ALASKA.

PUBL M.S. THESIS, UNIV. ALASKA, FAIRBANKS. 66P.

KEYS SMALL MAMMALS, RED-BACKED VOLES, ALASKA, POST-FIRE SUCCESSION, WILDFIRE, 2

232 AUTH WEST S. D.

DATE 1979.

TITL HABITAT RESPONSES OF MICROTENE RODENTS TO CENTRAL ALASKAN FOREST SUCCESSION.

PUBL PH.D. THESIS. UNIV. CALIF., BERKELEY. 115P.

KEYS SMALL MAMMALS, VOLES, ALASKA, PLANT SUCCESSION, HABITAT, 2

233 AUTH WILLIAMS O.

DATE 1955.

TITL DISTRIBUTION OF MICE AND SHREWS IN A COLORADO MONTANE FOREST.

PUBL J. MAMMAL. 36(2):221-231.

ANNO GIVES HABITAT TYPES IN WHICH VARIOUS SMALL MAMMALS WERE TRAPPED.

SMALL MAMMALS, SHREWS, WHITE-FOOTED MOUSE, RED-BACKED VOLES, KEYS ROCKY MOUNTAIN PHENACOMYS, MEADOW VOLE, WESTERN JUMPING MOUSE, HABITAT, COLORADO, 3

234 AUTH WILLIAMS O.

DATE 1959.

TITL FOOD HABITS OF THE DEER MOUSE.

PUBL J. MAMMAL. 40(3):415-419.
ANNO SEEDS MADE UP TWO-THIRDS TO THREE-FOURTHS OF THE MATERIAL FOUND IN THE STOMACHS OF DEER MICE COLLECTED IN WYOMING AND COLORADO. ONE-TENTH TO ONE-FIFTH OF THE MATERIAL CONSISTED OF INSECT AND ARACHNID REMAINS.

KEYS SMALL MAMMALS, DEER MOUSE, FOOD HABITS, COLORADO, MONTANA, 2

AUTH WOLFF J. O. 235

> DATE 1978.

TITL FOOD HABITS OF SNOWSHOE HARES IN INTERIOR ALASKA.

PUBL J. WILDL. MANAGE. 42(1):148-153.

ANNO DESCRIBES FOOD HABITS OF SNOWSHOE HARES IN ALASKA.

KEYS SNOWSHOE HARE, FOOD HABITS, ALASKA, SMALL MAMMALS, 3

236 AUTH YEAGER L. E.

DATE 1950.

TITL IMPLICATIONS OF SOME HARVEST AND HABITAT FACTORS ON PINE MARTEN MANAGEMENT.

PUBL TRANS. NORTH AM. WILDL. CONF. 15:319-334.

ANNO THE IMMEDIATE EFFECT OF FIRE ON MARTEN POPULATIONS IS DESTRUCTIVE. LOGGING AND GRAZING ARE SLOWLY CONSUMING MARTEN HABITAT. RECOMMENDS NOVEMBER-DECEMBER TRAPPING SEASONS BECAUSE MORE MALES ARE TRAPPED DURING THIS TIME AND COULD BE REMOVED AS SURPLUS POPULATION, YIELDS OF HIGH QUALITY PELTS, AND BETTER CONDITIONS FOR TRAPPING.

KEYS MARTEN, HABITAT, FIRE, LOGGING, GRAZING, TRAPPING, 2

237 AUTH YEAGER L. W.

DATE 1961.

TITL CLASSIFICATION OF NORTH AMERICAN MAMMALS AND BIRDS ACCORDING TO FOREST HABITAT PREFERENCE.

PUBL J. FOR. 59(9):671-674.

ANNO CLASSIFICATION OF BIRDS AND MAMMALS BY FOREST HABITAT PREFERENCE.

KEYS BIRDS, SMALL MAMMALS, LARGE MAMMALS, HABITAT, 2

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Order Artiodactyla (even-toed ungulates) 6, 21, 25, 27, 35, 42, 48, 50, 55, 57, 59, 62, 64, 86, 91, 104, 110, 113, 124, 132, 133, 141, 142, 144, 145, 153, 162, 174, 175, 183, 191, 193, 195, 197, 199, 201, 223, 237 (also see specific species)

Family Cervidae (cervids)

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Mammal nomenclature according to:

Jones, J. K., D. C. Carter, and H. H. Genoways 1975. Revised checklist of North American mammals north of Mexico. Texas Tech Univ. Mus. Occas. Pap. 28:1-14.

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Bibliography 13, 21, 27, 50, 68, 145, 181, 183 Identification key 104 Literature Review 191, 196





Ream, Catherine H.

1981. The effects of fire and other disturbances on small mammals and their predators: an annotated bibliography. USDA For. Serv. Gen. Tech. Rep. INT-106, 55 p. Intermt. For. and Range Exp. Stn., Ogden, Utah 84401.

An annotated bibliography (with keywords) on the effects of fire, logging, grazing, and spraying on small mammals and their predators. Includes a brief summary of the general effects of fire on some of the more common small mammals in western coniferous forests.

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